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ANNUAL REPORT

—OF THE—

ITTEE ON THE DEPARTMENT OF WATER

—OF THE—

BOARD OF

EET AND WATER COMMISSIONERS

—OF THE—

CITY OF NEWARK, N. J.

THE FISCAL YEAR ENDING DECEMBER 31, 1891

[illegible]

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ANNUAL REPORT

—OF THE—

Committee on the Department of Water

—OF THE—

BOARD OF STREET AND WATER COMMISSIONERS,

OF THE CITY OF NEWARK,

FOR THE FISCAL YEAR ENDING DEC. 31, 1891.

◆

OFFICERS AND MEMBERS.

JAMES SMITH, JR.,	President
E. LIVINGSTON PRICE,	Counsel
CHARLES MARSH	General Superintendent of Works
ENOS RUNYON,	Clerk of the Board
FERDINAND A. HAHN,	*Term expires with 1894*
JAMES SMITH, JR., HUGH C. HENDRY, M. D.,	*Term expires with 1895*
THOMAS HARLAN, REUBEN TRIER,	*Term expires with 1896*

Committee on the Department of Water.

THOMAS HARLAN, Chairman.
HUGH C. HENDRY, M. D.
REUBEN TRIER.

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1902

Superintendent's Report.

To the Board of Street and Water Commissioners of the City of Newark:

GENTLEMEN:—I herewith respectfully submit the following report of the condition and operation of the works of the Water Department for the thirteen months ending December 31, 1891—the fiscal year having been changed to that date.

In order to make the usual comparison between the pumping of the ending and that of the preceding year, the following pumping statements cover the old fiscal year ending November 30th, and the new fiscal year ending December 31st, separately, and also the pumping for the thirteen months.

The total quantity of water pumped at the Belleville Pumping Station during the old fiscal year was 6,143,511,920 gallons, an increase over last year of 571,681,144 gallons.

The highest daily average for the year was 22,247,474 gallons in August, an increase over last year of 1,856,834 gallons.

The lowest daily average was 13,650,500 gallons in February, an increase over last year of 1,075,567 gallons.

The average daily pumping for the year was 16,831,-

314

540 gallons, an increase over last year of 1,566,250 gallons.

The amount of coal consumed was 21,041,978 pounds, or 9,393$\frac{1658}{2240}$ tons.

The total quantity of water pumped at the High Service Pumping Station (Clifton avenue) during the old fiscal year was 2,144,909,462 gallons, an increase over last year of 119,482,146 gallons.

The highest daily average was in July, 7,592,024 gallons, an increase over last year of 107,016 gallons.

The lowest daily average was in February, 4,936,046 gallons, an increase over last year of 422,884 gallons.

The average daily pumping for the year was 5,876,464 gallons, an increase over last year of 327,348 gallons.

The total amount of coal consumed was 6,263,352 pounds, or 2,796$\frac{312}{2240}$ tons.

The total quantity of water pumped at the Belleville Pumping Station during the new fiscal year was 6,126,529,392 gallons, an increase over last year of 554,698,616 gallons.

The highest daily average for the year was in August, 22,247,474 gallons, an increase over last year of 1,856,834 gallons.

The lowest daily average was 13,650,500 gallons in February, an increase over last year of 1,075,567 gallons.

The average daily pumping for the year was 16,785,011 gallons, and increase over last year of 1,519,721 gallons.

The amount of coal consumed was 20,933,688 pounds, or 9,345$\frac{898}{2240}$ tons.

The total quantity of water pumped at the High Service Pumping Station for the new fiscal year was 2,130,512,172 gallons, an increase over last year of 105,084,856 gallons.

The highest daily average for the year was in July, 7,592,024 gallons, an increase over last year of 107,016 gallons.

The lowest daily average for the year was 4,736,869 gallons in December, an increase over last year of 223,707 gallons.

The average daily pumping for the year was 5,837,019 gallons, an increase over last year of 287,903 gallons.

The total amount of coal consumed was 6,182,884 pounds, or 2,760$\frac{484}{2240}$ tons.

The total quantity of water pumped at the Belleville Pumping Station during the past thirteen months, ending December 31, 1891, was 6,574,756,960 gallons.

The highest daily average for thirteen months was 22,247,474 gallons in August, an increase over last year of 1,856,834 gallons.

The lowest daily average for the last thirteen months was 13,650,500 gallons in February, an increase over last year of 1,075,567 gallons.

The average daily pumping of the last thirteen months was 16,602,921 gallons, an increase over last year of 1,337,631 gallons.

The amount of coal consumed during the last thirteen months was 22,494,371 pounds, or 10,042$\frac{291}{2240}$ tons. The cost of pumping per million gallons was 7.46\frac{1}{10}$.

The total quantity of water pumped during the past thirteen months, ending December 31, 1891, at the High Service Pumping Station (Clifton avenue), was 2,291,752,418 gallons.

The highest daily average of the last thirteen months was 7,592,024 gallons in July, an increase over last year of 107,016 gallons.

The lowest daily average of the last thirteen months was 4,736,869 gallons in December, an increase over last year of 223,707 gallons.

The daily average of the last thirteen months was 5,787,253 gallons, an increase of daily average over last year of 238,137 gallons.

The total amount of coal consumed was 6,692,862 pounds, or 2,987$\frac{1982}{2240}$ tons.

The cost of pumping per million gallons was 11.52\frac{6}{10}$

The cost of pumping, including High Service, per million gallons, was 11.47\frac{9}{10}$.

The Belleville Pumping Station.

Chief Engineer of the Pumping Department, H. H. Burritt, reports that everything has run smoothly and efficiently during the past year, notwithstanding the fact that the capacity of the works was taxed far more than in any year since its existence.

From May 28th to June 2d, the two eight-millon-gallon pumps, Nos. 3 and 4, were pumping through one pump-main (No. 2), (while the new connections were being made near the reservoir), which put a great strain both on pumps and pump-main.

Up to July 1st considerable pumping had been done through the old connecting pipe, but on that date the work of laying the new connecting pipe having been completed, the reservoir was shut off, and all the pumping was done through the connecting pipe under increased pressure; three pumps working together almost constantly for four months. On October 26th pumping was begun through Pump Main No. 1, and on October 30th the connecting pipes were shut off and the Reservoir placed in service again.

The only accidents which have happened have been to Pump No. 3. On July 3d, at 5 o'clock A. M., the plunger-rod on the north side broke. It was soon replaced by H. R. Worthington & Co., and the pumps started again. The same rod broke on August 4th, at 4 o'clock P. M., and again had to be replaced.

Boilers Nos. 1, 2, 3 and 4, have received new mouth pieces, and Nos. 5, 8 and 9, new lining. In April the old patch on No. 8 had to be renewed.

The High Service Pumping Station.

At this Pumping Station, also, everything has worked smoothly and efficiently during the past thirteen months without an accident of any kind; and the repairs that have been necessary have merely been such as could be attended to by the employees of the Pumping Station.

Pump No. 2 has been running continuously night and day since May 31st, without the slightest accident, and is still in operation.

Boiler No. 2 has had to be patched, and Boilers Nos. 1, 2 and 4 have been re-lined and received new bridge-walls.

Pump Mains and Supply Mains Nos. 1 and 2.

The mains have needed no repairs of any kind during the past thirteen months.

The extraordinarily high consumption during the Summer months of the previous year made it necessary to make some provisions to meet the usual increase of consumption during this period of the past year, and plans were therefore ordered made and submitted for a second thirty-inch main along the east side of the Reservoir to connect Pump Main No. 1 with Supply Main No.

2, (a distance of about 600 feet), so as to pump through the same with increased pressure. The work was ordered done, and commenced on May 4th by making the connection at Supply Main No. 2. This connection consists of one Y branch standing upright, with one 45 degree bend, which allows the connecting pipe to run over Supply Main No. 1. At this point one gate was inserted.

At the other end the pipe is thirty-six inches in diameter, and connects with both pump-mains. Gates are placed on each side of the two mains, and, also, one between them. On the pump-mains gates are placed on each side of the thirty-six-inch pipe, making in all three thirty-six-inch and four thirty-inch gates. The thirty-six inch pipe is continued across the road, where a connection is made with the old connecting-pipe, which is provided with a gate. At this point the thirty-six-inch pipe is reduced to thirty inches, and continued on to connect with Supply Main No. 2.

The connection with both pump-mains was made in order to make the two connecting-pipes serviceable when the new water supply is introduced, and the Belleville pumping finally abandoned. To effect this purpose the thirty-six-inch gate was to be connected with the new water supply in such a manner as to be able to feed directly into the city in case the Belleville reservoir should be temporarily out of service. This connection was made by the East Jersey Water Company, who carried a thirty-six-inch pipe to the overflow-chamber in the gate-house of the new water supply. By means of this pipe the city can be supplied as mentioned above.

The East Jersey Water Company will use the pipe laid by them as an overflow-waste (having purchased the right to use Pump-main No. 1, for that purpose), through which the waste will flow into the north basin, where a new connection has been provided for by the company.

A substantial vault has been built around the "Sevengate" connection on the north side of Jeroleman street.

Belleville Reservoir.

In September last it became necessary to lower the water-level of the Reservoir eight to ten feet, in order to give the East Jersey Water Company the opportunity to build the foundation for their new gate-house. It was considered that the Reservoir might as well be emptied for the purpose of cleaning, etc., especially as it had been practically out of service since July 1st, all pumping having been done through the connecting-pipes. A great deal of silt deposit was found in the bottom of the Reservoir, considering the fact that it had been thoroughly cleaned in 1883. The silt was removed in the same manner as in that year, by dissolving the same in water and washing it out through the twelve-inch waste-pipe. The bottom was finally throughly swept and cleaned.

The slope-walls, vertical-wall and coping were repointed and the screen-towers and stand-pipe re-painted. Water was again let into the Reservoir on October 26th.

In operating the gates in the gate-house, the stem of one of the gates broke and had to be renewed. This stem had heretofore worked in the opposite direction to those of the other three gates. This was corrected, and now all four gates work alike. The twelve-inch gate on the waste-pipe also received an overhauling before the water was let in.

The gate-house of the new water supply is very nearly completed. It is located on the north side, near the northwest corner, and is a pretty structure.

The Low-Service Reservoir.

The water-level at the Low Service Reservoir has been kept at about the same depth (eighteen to nineteen feet), as in the latter part of last year.

During the Summer inspection was made of the Branch Brook Sewer, from the old Branch Brook Reservoir to Clifton avenue, in order to ascertain whether there were any leaks in the bottom of the Reservoir discharging in that direction, but not the slightest indications were found.

The small leak on the west side of the Reservoir near the line of Seventh avenue has re-appeared, and is somewhat larger than before. The water-level in the Reservoir should be lowered during the coming Spring and time of least consumption, in order to repair the same.

The High-Service Reservoir.

There has been no change in the condition of this Reservoir during the past year. In October the water-level had to be lowered in order to give the East Jersey Water Company an opportunity to build the foundation for their gate-house, which is located on the bank opposite South Eighth street. The gate-house is similar in design to that at the Belleville Reservoir, and is not quite completed.

In lowering the water of the Reservoir it was discovered that the lower outlet pipe at the gate-house had become clogged and no water was passing through the same. This is a matter which should be remedied at the earliest apportunity.

Distribution.

The addition to the milage of pipe connected with the work has, during the past (old fiscal) year, been larger than in any year since 1874, when the construction for the piping system for the city, regarded in the light of a new water works, was yet in progress. This was not accomplished until the ending of the fiscal year of 1875.

The following is a list of the amount of pipe laid during the thirteen months ending December 31, 1891:

36	Inch	103	Feet.
30	"	548	"
24	"	12,484	"
20	"	228	"
12	"	2,298	"
6	"	36,181	"
4	"	831	"
		52,673	feet.

or nine (9$\frac{5153}{5280}$) miles, making a total mileage of pipes connected with the works of one hundred and nine-two (192$\frac{1373}{5280}$) miles.

The number of hydrants set during the past thirteen months was seventy-two (72), of which fifteen (15) were on the Low Service; fifty-five (55) on the High Service, and two (2) in the village of Belleville.

The total number of hydrants on December 31, 1891, was fifteen hundred and ninety-three (1593), of which eight hundred and three (803) on the Low Service and seven hundred and sixty-four (764) on the High Service, twenty-three (23) in the village of Belleville, and three (3) at the Belleville Pumping Station.

The great feature of the addition to the distributing system has been the laying of distributing-main (feeder) No. 2. The laying of this main had been recommended by Mr. George R. Gray, as Superintendent of the then Newark Aqueduct Board since 1884. The laying of this main with connections, completes the system of feeders for the Low Service contemplated for several years past, and places the service in such a condition that no additions will, in all probability, be needed for a number of years to come.

The pipe (24-inch) extends from the Low Service Reservoir to Clifton avenue, through the same to Eighth avenue; thence to Nesbitt street, James street, across Washington Park to the corner of Broad street and Washington place; crossing Broad street at almost a right angle to the east side of the same; thence along the east side of Broad street and Park place, Centre street, Mulberry street, River street, crossing the Morris Canal and the Pennsylvania railroad to East Canal street; thence through the same to Market street and under the north sidewalk of the same to a point near Jefferson street, where two bends carry the pipe into the latter street, which it follows to Walnut street, where it connects with the twenty-inch main running through the same. At this point provision has been made to extend the twenty-four-inch main across the twenty-inch main in Walnut street (independent of the connection made) at some future time. The twelve-inch connection through Railroad place, from East Canal to Market streets, has been laid as contemplated, but the line of the other twelve-inch connection in Market street, from Jefferson to Adams streets, was changed so as to run through Passaic avenue to Adams Alley.

This work was advertised for, and at a meeting of the Newark Aqueduct Board held on January 4th, the contract was awarded to Mr. John F. Shanley, the lowest bidder. Mr. Shanley commenced work on March 19th and completed the same on July 3d. The contract provided for the entire length of twenty-four-inch pipe, the two twelve-inch connecting pipes mentioned above, and also the insertion of two twenty-inch branches in Washington Park (to connect with the twenty-four-inch main in Broad street), and a ten-inch branch in Plane street, to connect with the ten-inch main in the same; and, in Clifton avenue, one twenty-four-inch branch to be connected with Supply Main No. 2, so as to feed directly into the Low Service through the new twenty-four-inch main, in case the Low Service Reservoir should have to be emptied. All the work of making these connections was done by this department. In Broad street two twenty-inch patent taps were made by means of Mr. A. P. Smith's tapping machine, and connected with the two twenty-inch branches inserted into the new distributing main. In Clifton avenue, at Seventh avenue, a twenty-four-inch branch had been left in distributing main No. 2, with which connection was made. The pipe had to be carried over Supply Main No. 1.

The pipe was carried over the Morris Canal on the west side of the River Street bridge, by two fifteen-inch heavy beams, connected with channels on which are bolted chairs for the pipes to rest on.

Great difficulty was experienced in laying the new twenty-four-inch main on account of the numerous obstacles encountered in the shape of water mains and service pipes, gas pipes, main sewers and sewer connections; many old drain-pipes yet in use (the existence of which no one knew anything about), and other minor obstacles. Notwithstanding all these drawbacks the work was successfully accomplished, and no break or leak has shown itself since the pipe was filled, with the single exception of a trifling leak or "sweating" of a joint in James street, which was easily repaired.

The first section of the main as far as Broad street was filled on May 25th, and the second section as far as Jefferson street, including the twelve inch connections, on August 1st. Both sections were immediately put into service. The pressure over the Low Service was increased from eight to twelve pounds.

Complaint has been made recently in regard to the lack of pressure on a part of the Belleville level near Bloomfield avenue. This, however, will be remedied when the new water supply will be in operation on the High Service, and the pumps of the High Service Pumping Station stop running, the supply of which, of late years, have been drawing heavily on Supply Main No. 1, which also supplies the Belleville level.

During the Summer complaints were also made regarding the supply in Clay street, between High and Broad streets. The part of the street mentioned was transferred to the Belleville level, but to no purpose. On investigation it was found that the main had broken and that the water escaped into the Clay street sewer, which accounted for the fact that the break had not been discovered before.

Another serious break on the twenty-inch pump-main on Norfolk street, just north of the Morris canal, occurred on July 16th. It was found to be a blown out joint which caused a great flood, endangering the abutment of the Morris Canal bridge and private property. The joint was driven back with considerable difficulty. No other breaks of any importance have occurred during the past thirteen months.

CONSUMPTION.

The usual consumption statements and statistics are appended.

The total number of taps made during the thirteen months ending December 31, 1891, was seventeen hundred and forty-two (1742), of which nine hundred and thirty-nine (939) on the High Service and eight hundred and three (803) on the Low Service, being an excess of one hundred and thirty-three (133) on the latter. Up to 1886 the Low Service taps have always exceeded the High Service taps, (in the preceding year by nineteen (19), but since then the excess of the High Service taps has grown more or less, plainly indicating the direction in which the city is growing the most. The total number of taps in the High Service is gradually approaching that of the Low Service. In 1880 there were twenty-nine hundred and seventy-four (2974) taps in the High Service and eight thousand one hundred and fourteen (8,114) on the Low Service, or $2\frac{7}{10}$ times the number. At the end of the new fiscal year there were ten thousand two hundred and thirty-one (10,231) on the High Service, and fourteen thousand seven hundred and seventy-six (14,776) on the Low Service, only $1\frac{4}{10}$ times the number. Comparing the total number of new taps made during the old fiscal year with that of the previous year, there has been a falling off of one hundred and forty-seven (147) taps.

The extraordinarily high consumption during the months of June, July, August and September (the period of the highest consumption), was as marked as it had been for the last four or five years, although the increase of the daily average consumption over that of last year is not nearly as high as that of that year over the preceding one, as the following figures, giving the increase of each month, will show:

Month.	*1890 over 1889.*		*1891 over 1890.*	
June	2,838,082	Gallons	2,344,288	Gallons
July	3,595,240	"	1,703,750	"
August	3,425,678	"	2,243,875	"
September	2,885,315	"	1,952,431	"

In 1890, July was the month of highest consumption, and in 1891 the month of August.

The average daily increase for the *whole period* of highest consumption in the three years mentioned is 3,186,079 gallons for 1890 over 1889, and 2,061,086 gallons for 1891 over 1890; a decrease of over 1,000,000 gallons for every day.

There can be no doubt that the decrease is due to the action of the Board last Spring in directing that no motors should be set without a meter, which practically prohibited the setting of motors, especially for the running of fans, and also proves the wisdom of passing a rule that all motors should be metered.

Last year the excess of highest daily average consumption for the year over the lowest daily average consumption for year was $63\frac{1}{10}$ per cent., while this year it was only $58\frac{7}{10}$ per cent. In the year of 1884 this excess was not more than $31\frac{4}{10}$ per cent.

The average daily consumption per tap for the year was six hundred and sixty-four (664) gallons. It is remarkable how close these averages have been during the past seven years, as the following figures will show:

1886....	Consumption	Per	Taps...	..689	Gallons.
1887........	"	"	"	687	"
1888........	"	"	"	682	"
1889.... ...	"	"	"	654	"
1890........	"	"	"	656	"
1891........	"	"	"	664	"

The average for the seven years is six hundred and seventy-two (672) gallons, seventeen (17) gallons less than the highest, and eighteen (18) gallons more than the lowest consumption per tap, or $2\frac{7}{10}$ per cent. either way.

This is a fact which may be of service in estimating the consumption in the future.

Real Estate.

There have been only three sales of real estate during the past thirteen months. viz.: Lot No. 36, in plot

13, being the rear of No. 255 Eighth avenue, for $80.00. This was the last of the Eighth avenue rear lots, the rest having all been sold to the owners of the front lots. Lots Nos. 14, 15 and 16, also in plot 13, fronting on Drift street, for $1,500; and, also Lots Nos. 1, 2, 3 and 4, of plot No. 10, for $1,400. These sales aggregate the sum of $2,980, all of which has been paid into this office.

Storage Reservoir.

No steps have been taken during the past year to provide for adequate storage to meet the exigencies that may arise after the new water supply has become an established fact.

As there is only one conduit to conduct the Pequannock water to Newark, the Pumping Station will have to be kept in working order until adequate storage is provided for.

New Water Supply.

The works of the new water supply are almost completed. The reports of the Civil Engineer of this department, Charles E. A. Jacobsen, on the progress and condition of the works during the past thirteen months are on file at this office.

On June 4th, the Board passed a motion appointing Chief Engineer of the New Croton Aqueduct, A. Fteley, Consulting Engineer on the work of the New Water Supply.

The reports of Mr. A. Fteley are also on file at this office.

On November 18, 1891, the following motion was passed:

"That the Consulting Engineer, Mr. A. Fteley, and

Engineer Jacobsen be requested to take up the contract between the East Jersey Water Company and the City of Newark, *seriatim,* and report to the Board in writing what is still necessary for the East Jersey Water Company to do to complete and carry out the contract."

At the end of the year the report of the Engineers had not yet been presented.

CHARLES MARSH,

General Superintendent of Works.

Clerk's Report.

BOARD OF STREET AND WATER COMMISSIONERS,
OF THE CITY OF NEWARK,
DEPARTMENT OF WATER.

To the Honorable the Mayor and Common Council, of the City of Newark:

GENTLEMEN :—In accordance with section 20 of the law creating the Board of Street and Water Commissioners of the City of Newark, which requires me to make a report of the receipts and expenditures at the close of each fiscal year, I herewith submit the following as my report of the Department of Water for the thirteen months ending December 31, 1891.

Cash balance November 30, 1890,	$ 39,352.35
Receipts from all sources,	650,538.01
	$689,890.36
Less disbursements on all accounts,	594,626.56
Balance cash on hand and in banks,	$95,263.80

ENOS RUNYON,
Clerk of the Board.

Engineer Jacobsen be requested to take up the contract between the East Jersey Water Company and the City of Newark, *seriatim*, and report to the Board in writing what is still necessary for the East Jersey Water Company to do to complete and carry out the contract."

At the end of the year the report of the Engineers had not yet been presented.

CHARLES MARSH,

General Superintendent of Works.

Clerk's Report.

Board of Street and Water Commissioners,
of the City of Newark,
Department of Water.

To the Honorable the Mayor and Common Council, of the City of Newark:

Gentlemen:—In accordance with section 20 of the law creating the Board of Street and Water Commissioners of the City of Newark, which requires me to make a report of the receipts and expenditures at the close of each fiscal year, I herewith submit the following as my report of the Department of Water for the thirteen months ending December 31, 1891.

Cash balance November 30, 1890, - -	$ 39,352.35
Receipts from all sources, - - - - -	650,538.01
	$689,890.36
Less disbursements on all accounts, -	594,626.56
Balance cash on hand and in banks, -	$95,263.80

ENOS RUNYON,
Clerk of the Board.

FINANCIAL STATEMENTS.

Board of Street and Water Commissioners,
of the City of Newark,
Department of Water,
December 31, 1891.

We, the undersigned, hereby certify that at the close of business this day, we made a personal examination of the cash, cash vouchers and securities of the Department of Water of this Board, and found them to correspond with the accounts called for by the books.

JAMES SMITH, Jr.,
THOMAS HARLAN,
H. C. HENDRY,
REUBEN TRIER,
F. A. HAHN,
Commissioners.

TRIAL BALANCE,

DECEMBER 31, 1891.

Cash	$95,263 80	
Coupon Bonds		$2,580,000 00
Registered Bonds		952,000 00
Coupons Payable		35 00
National State Bank	35 00	
Real Estate, No. 1	26,964 15	
" " 2	3,696 15	
" " 3	2,545 48	
" " 4	10 50	
" " 5	750 00	
" " 6	13,177 00	
" " 7	500 00	
" " 10	2,360 00	
" " 11	10,456 36	
" " 12	12,134 90	
" " 13	9,092 65	
" " 15	55 42	
" " 16	6,000 00	
" " 17	12,500 00	
" " 18	1 00	
" " 19	500 00	
" " 20	100 00	
" " 21	500 00	
" " 22	3,290 04	
" " 23	500 00	
" " 24	4,880 00	
" " 25	4,300 00	
" " 26	2,660 00	
" " 27	625 00	
" " 28	3,550 00	
" " 29	4,200 00	
" " 30	9,196 00	
" " 31	3,800 85	
" " 32	9,380 00	
" " 33	6,738 00	
" " 34	9,000 00	
" " 36	1,201 00	
" " 37	1 00	
" " 38	1,400 00	
" " 39	4,250 00	
" " 44	15,375 00	
	$279,989 30	$3,532,035 00

Amount brought forward	$279,989 30	$3,532,035 00
Real Estate, No. 46	3.713 02	
" " 53	21,477 07	
" " 54	9,393 89	
" " 55	4,696 95	
" " 56	11,883 64	
" " 57	1,693 92	
" " 58	5,101 69	
" " 59	532 50	
" " 60	11,113 86	
" " 61	450 00	
" " 62	339 00	
" " 63	389 55	
Appropriation Extension of Street Mains		40,000 00
Street Mains, General	1,352,686 62	
General Supplies		166 90
Street Mains, Stock and Materials	1,015 13	
Street Mains of 1891	27,472 84	
Belleville Pump House	56,309 39	
Belleville Boiler House Extension	2,387 76	
Belleville Pumping Engine, No. 1	55,909 73	
Belleville Pumping Engine, No. 2	55,591 95	
Belleville Pumping Engine, No. 3	78,918 29	
Belleville Pumping Eugine, No. 4	42,607 54	
New Boilers, Belleville	15,638 31	
New Chimney, Belleville	10,057 24	
Belleville Engineer and Firemen's Dwellings	22,751 56	
River Wall, Dock and Basins	266,112 99	
Receiving Reservoir, Belleville	133,645 05	
Keeper's House, Receiving Reservoir, Belleville	3,192 60	
Driven Wells, Belleville	10,568 76	
Caisson Well, Belleville	2,453 80	
Pump Main, No. 1	92,552 57	
Pump Main, No. 2,	47,353 54	
Supply Main, No. 1	152,998 38	
Supply Main, No. 2	81,637 82	
Section "A," Supply Main, No. 2	49,998 90	
High Service Engine House	27,847 44	
High Service Engine House, Extension	5,417 70	
High Service Pumping Engine, No. 1	21,407 40	
High Service Pumping Engine, No. 2	21,630 22	
High Service Pumping Engine, No. 3	19.874 81	
High Service Reserve Pumps	12,609 26	
New Boilers, Chatham Street	6,349 82	
High Service Reservoir, South Orange Avenue	94.585 27	
Low Service Reservoir, Seventh Avenue	304,039 20	
Branch Brook Reservir, Seventh Avenue	54,294 15	
New Supply Survey	8,555 83	
Twelfth Ward Feeder	7,151 67	
Extra High Service	33,704 66	
High Service & Belleville Machinery, Fixtures, &c	3,141 60	
Stable, Stock and Fixtures	4,709 75	
Office, Furniture, Fixtures, &c	2,511 00	
Telephone Lines and Properties	1,200 00	
	$3,542,664 94	$3,572,201 90

Amount brought forward	$3,542,664 94	$3,572,201 90
Hydrant Account		508 50
Water Meter Account	21.792 80	
Bond and Mortgage	4.670 00	
Distributing Main, No. 2	63,612 00	
High Service Fuel Account	14,760 69	
High Service Engine Stores	1,440 55	
High Service Engineer and Firemen's Wages	10,882 56	
Belleville Fuel Account	32,374 55	
Belleville Engine Stores	2,901 29	
Belleville Engineer and Firemen's Wages	20,418 70	
Expense Account	16,013 16	
Salaries	19,719 49	
Inspection	8,704 00	
Engineering	4,597 99	
Interest – Coupons	180,600 00	
Interest - Registered	56,055 00	
Insurance	235 50	
Interest—General Account	33 46	
Maintenance and Repairs, Telephone Lines, &c.	298 12	
Maintenance—General Account	23,426 98	
Maintenance—Reservoirs and Grounds	10,037 60	
Maintenance—Pure Water	4,348 16	
New Water Supply	7,879 43	
Repairs, Street Mains	1,200 45	
Repairs, Hydrants	44 95	
Repairs, Real Estate, No. 1	845 17	
Repairs, Real Estate, Tenements and General	165 15	
Repairs, Engineer and Firemen's Dwellings	7 20	
Repairs, Keeper's House, Belleville	350 55	
Repairs, Drinking Fountains		3 68
Repairs, Water Meter	158 97	
Repairs, Belleville Pump House	115 63	
Repairs, High Service Pump House	9 36	
Repairs, Belleville Pumps, Boilers and General	2,835 25	
Repairs, High Service Pumps, Boilers & General	689 03	
Repairs, Tools	564 03	
Repairs, Pump Main, No. 1	18 00	
Repairs, Services	1 45	
Setting Meters	26 36	
Service Account		2,230 79
Surplus and Deficiency		35,493 21
Special Appropriation		50,000 00
Loss and Gain		135 60
Water Rents, Income		442,461 81
Penalties, Fines, &c		1,347 00
Rents, Real Estate		944 00
Plumbers Drafts		726 20
Collection Account, Advance October Water Rents	26,393 39	
Collection Account, Services	3,391 00	
Collection Account, Fractional	799 62	
Collection Account, Motors	2,349 39	
Collection Account, Miscellaneous Water Rents	11,935 29	
Sundry Personal Account	6,685 48	
	$4,106,052 69	$4,106,052 69

STATEMENT A.

CONSTRUCTION ACCOUNT.

BELLEVILLE :	
Pump House	$ 56,309 39
Engineer's and Fremen's Dwellings	22,696 52
River Wall, Dock and Basins	266,112 99
Receiving Reservoir	133,645 05
Keeper's House	3,192 60
Driven Wells	10.568 76
Caission Well	2,453 80
New Boilers	15,638 31
New Chimney	10,057 24
Boiler House Extension	2,387 76
Pumping Engine No. 1	55,909 73
Pumping Engine No. 2	55,591 95
Pumping Engine No. 3	78,918 29
Pumping Engine No. 4	42,607 54
NEWARK :	
High Service Engine House	27,847 44
High Service Engine House Extension	5,417 70
Boiler House Extension	6,349 82
High Service Pumping Engine, No. 1	21,407 40
High Service Pumping Engine, No. 2	21,630 22
High Service Pumping Engine, No. 3	19,874 81
High Service Reserve Pumps	12,609 26
High Service Reservoir	94,585 27
Low Service Reservoir	304.039 20
Branch Brook Reservoir	54,294 15
MAINS :	
Street Mains, General	1,352,686 62
Pump Main, No. 1	92,552 57
Pump Main, No. 2	47,353 54
Supply Main, No. 1	152,998 38
Supply Main, No. 2	81,637 82
Section "A," Supply Main, No. 2	49,998 90
Twelfth Ward Feeder	7,151 67
Extra High Service	33,704 66
Distributing Main, No. 2	63,612 00
Street Mains of 1891	27,472 84
	$3,233,314 20

STATEMENT B.

GENERAL STOCK AND PROPERTY.

Real Estate	$256,475 59
Bond and Mortgage	4,670 00
Belleville Fuel and Stoves	6,636 80
High Service Fuel and Stores	667 98
Water Meters set and on hand	21,792 80
Street Mains, Stock and Materials	5,033 67
General Supplies	151 33
Service Account	288 47
Office Furniture and Fixtures	3,552 25
Stable, Stock and Fixtures	5,424 00
Telephone Lines	1,200 00
Hydrants	523 00
Machinery and Stock at Pumping Stations	3,141 60
New Supply Survey	8,555 83
Insurance	107 00
	$318,220 32

STATEMENT C.

ACCOUNTS DUE THE BOARD.

Collection Account, Advance Water Rents	$ 26,393 39
" " Arrears	8,314 76
" " Measured	3,154 28
" " Special	307 84
" " Fractional	799 62
" " Motors	2,349 39
" " Services	3,391 00
" " Building	158 41
Sundry Personal Accounts	6,685 48
	$51,554 17

STATEMENT D.

MAINTENANCE AND REPAIRS.

Maintenance,	Telephone Lines	$ 298 12
"	General	23.426 98
"	Reservoirs and Grounds	10,037 60
"	Pure Water	4,348 16
"	New Water Supply	7,879 43
Setting Meters		26 36
Repairs,	Street Mains	1,200 45
"	Hydrants	44 95
"	Real Estate, No. 1	845 17
"	Real Estate, Tenements and General	165 15
"	Engineer's and Firemen's Dwellings	62 24
"	Keeper's House, Belleville	350 55
"	Water Meters	158 97
"	Belleville Pump House	115 63
"	Belleville Pumps, Boilers and General	2,835 25
"	High Service Pump House	9 36
"	High Service Pumps, Boilers and General	689 03
"	Tools	564 03
"	Pump Main, No. 1	18 00
"	Services	1 45
		$53,076 88

ASSETS AND LIABILITIES.

	ASSETS.	LIABILITIES.
Construction Account	$3,233,314 20	
General Stock and Property	318,220 32	
Anticipated Assets	51,554 17	
Coupon Trust Fund	35 00	
Cash	95‘263 80	
Coupon Bond Account		$2,580,000 00
Registered		952,000 00
Coupons Payable		35 00
Plumbers Drafts		726 20
Loss and Gain Account { Out of which is to be paid interest on Registered & Coupon Bonds due February 1st, $73,890.00; due May 1st, $43,087.50		165,626 29
	$3,698,387 49	$3,698,387 49

STATEMENT.

FUND FOR THE CONSTRUCTION OF A STORAGE RESERVOIR.

CASH.

	DR.	CR.
Balance, November 30, 1891	$52,724 48	
Temporary Loan, City of Newark		$50,000 00
From City of Newark	50,000 00	
From City of Newark, Interest Loan	1,125 00	
From Interest on Investments	13,475 00	
From Interest on Deposits	568 64	
Balance in Bank, December 31, 1891		67,893 12
	$117,893 12	$117,893 12

TRIAL BALANCE.

Storage Reservoir Fund Account		$285,893 12
Bond Account	$218,000 00	
Cash	67,893 12	
	$285.893 12	$285,893 12

SECURITIES.

Registered Newark City Water Bond, No. 9	$50,000 00
" " " " " No. 10	6,000 00
" " " " " No. 28	50,000 00
" " " " " No. 76	20,000 00
" " " " " No. 86	15,000 00
" " " " " No. 87	12,000 00
" " " " " No. 88	15,000 00
-- " " " " No. 75	40,000 00
Newark City Improvement Bonds, Nos. 271 and 280, inclusive	10,000 00
	$218,000 00

DETAILED RECEIPTS AND EXPENDITURES FROM DECEMBER 1, 1890, TO JANUARY 1, 1892.

RECEIPTS.

Balance on hand Nov. 30, 1890....		$39,352 35	
Advance Water Rent Collection....	$329,442 31		
Fractional Water Rent Collection..	5,426 14		
Miscellaneous Water Rent Collection..........................	106,774 80		
Hose Collection.................	5,920 56		
Motor Collection............... ..	4,119 28		
Service Collection, Services to Curb	25,089 27		
Sales on Service Accounts........	63 00		
Rents of Real Estate.............	944 00		
Penalties and Fines..............	1,347 00		
Sundry Personal Accounts........	14,650 01		
Sales of Real Estate, Payments Account of Purchase Money....	5,365 00		
Mortgages, Payment Account of Principal.....................	1,030 00		
Interest on Mortgages...........	300 78		
Temporary Loans...............	40,000 00		
Sales of Oil Barrels..............	47 25		
Sales of Old Iron and Pipe........	10 50		
Sale of Horse...................	27 50		
Sales of Wagons.................	30 00		
City of Newark, Account of Street Mains	40,000 00		
City of Newark, Account of Distributing Main, No 2..........	50,000 00		
Newark Aqueduct Board.........	19,950 61		
		$650,538 01	
			$689,890 36

EXPENDITURES—CONSTRUCTION.

Labor, laying street mains, 1891	$9,832 74		
Carting Pipe	223 75		
Hardware	115 34		
STREET MAIN, STOCK & MATERIAL.		$10,171 83	
Iron Pipe	15,664 70		
Stops	3,711 55		
Stop Boxes	225 00		
Lumber	101 99		
Wood	21 25		
Castings	2,792 56		
Patterns	65 00		
Pig Lead	2,535 87		
Pipe and Castings	2,921 95		
Mason Supplies	25 50		
Candles	1 80		
Clay	10 00		
Oil, Paint, etc	7 33		
Sundry Expense	10 51		
GENERAL SUPPLIES.		28,095 01	
Coke	23 40		
Hardware	29 27		
Wood	34 00		
Oil, etc	1 75		
Lumber	217 78		
Mason Supplies	8 50		
GENERAL MAINTENANCE.		314 70	
Hardware	102 75		
Mouldings	52 07		
Carting	328 75		
Machine Work	294 16		
Gates	2,492 00		
Lumber	114 20		
Mason Supplies,	188 07		
Plumbing	1 83		
Iron Beams	6 50		
Castings	1,101 94		
Engineering	1,064 50		
Sundry Expense	245 53		
Mason Work	596 64		
Labor	8,051 34		
		14,640 28	
			$53,221 82

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward			$53,221 82
MAINTENANCE OF RESEVOIRS AND GROUNDS.			
Keeper's, Watchmen and Gardener's Pay	$6,449 00		
Hardware	57 80		
Coal	50 90		
Plumping	104 30		
Stove	20 00		
Oil, etc.	69 20		
Lumber	259 29		
Mason Supplies	239 75		
Sand	22 50		
Plants	5 00		
Flower Pots	17 32		
Mason Work	2,623 50		
Machine Work	102 23		
Sundry Expense	16 81		
		$10,037 60	
PURITY OF WATER.			
River Patrol	1,033 60		
Professional services	3,280 11		
Carting	7 00		
Copying	22 45		
Sundry Expense	5 00		
		4,348 16	
REPAIRS OF STREET MAINS.			
Candles	2 50		
Oil	1 95		
Machine Work	1 00		
Labor	610 66		
Sundry Expense	30 24		
		646 35	
REPAIRS TO PUMP MAIN, NO. 1.			
Labor		18 00	
REPAIRS OF REAL ESTATE, NO. 1.			
Plumbing	464 19		
Lumber	24 56		
Hardware	6 23		
Oil, etc	5 60		
Mouldings	4 30		
Labor	340 29		
		845 17	
REPAIRS OF TENEMENTS.			
Lumber	67 32		
Hardware	2 75		
Oil, etc	3 69		
			15,895 28
	$73 76		$69,117 10

DETAILED RECEIPTS AND EXPENDITURES—Continued.

Amount brought forward.........	$73 76		$69,117 10
Labor.........................	91 39		
		$165 15	
REPAIRS OF ENGINEER'S AND FIREMEN'S DWELLINGS.			
Plumbing......................	21 80		
Labor.........................	40 44		
		62 24	
REPAIRS OF KEEPER'S HOUSE, BELLEVILLE.			
Plumbing......................	6 25		
Mason Work....................	279 16		
Lumber........................	4 28		
Oil...........................	38		
Painting......................	47 00		
Labor.........................	13 48		
		350 55	
REPAIRS OF BELLEVILLE PUMP HOUSE.			
Labor.........................	115 63		
Hardware......................	40		
		116 03	
REPAIRS OF BELLEVILLE PUMPS, BOILERS AND GENERAL REPAIRS.			
Mason Work....................	1,054 21		
Lumber........................	36 43		
Repairs, Boilers..............	593 70		
Hardware......................	4 47		
Mason Supplies................	242 68		
Castings......................	184 08		
Machine Work..................	517 64		
Carting.......................	80 32		
Labor.........................	121 32		
		2,834 85	
REPAIRS OF HIGH SERVICE PUMP HOUSE.			
Plumbing......................	9 36		
Mason Work....................	58 80		
		68 16	
REPAIRS OF HIGH SERVICE PUMPS, BOILERS AND GENERAL REPAIRS.			
Repairs of Boilers............	290 26		
Machine Work..................	321 97		
Mason Work....................	18 00		
		630 23	
REPAIRS OF TOOLS.			
Hardware......................	109 12		
			4,227 21
	$109 12		$73,344 31

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward	$109 12		$73,344 31
Rubber Boots	58 00		
Machine Work	17 85		
Stop Keys	9 20		
Plumbing	11 30		
Blacksmithing	288 55		
Canal Pumps	22 80		
Sundry Expense	3 45		
Labor	43 76		
		$564 03	
REPAIRS OF HYDRANTS.			
Machine Work	105 88		
Plumbing	50		
Oil	5 60		
Hardware	2 84		
Labor	138 06		
		252 88	
REPAIRS OF METERS.			
General Repairs	488 21		
Hardware	3 15		
Sundry Expense	87 14		
Labor	15 23		
		593 73	
SETTING METERS.			
Plumbing	3 00		
Labor	23 36		
		26 36	
REPAIRS OF SERVICES.			
Plumbing		1 45	
REPAIRS OF DRINKING FOUNTAINS.			
Plumbing	2 40		
Labor	2 19		
		4 59	
MAINTENANCE OF TELEPHONE LINES.			
Rent of Telephones	157 50		
Labor	140 62		
		298 12	
INSPECTION.			
Inspectors Wages		8,704 00	
EXPENSE ACCOUNT.			
Wages—Weekly Pay Roll	4,158 14		
Copying	137 99		
Telegrams, etc	44 58		
Oil, etc	15 18		10,445 16
	$4,355 89		$83,789 47

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward	$4,355 89		$83,789 47
Legislative Bills	25 00		
Hardware	46 99		
Coal	91 75		
Mounting Maps	2 50		
Directories	8 50		
Stable Supplies	895 35		
Stationery and Printing	2,004 32		
Expert Services	1,853 00		
Plumbing	20 58		
Horses	750 00		
Repairing Lock	2 70		
Legal Expense	2,705 25		
Lumber	6 83		
Horseshoeing	167 25		
New Wagons	360 00		
Advertising	537 70		
Gas	197 82		
Rubber Stamps	8 60		
Repairs of Vehicles	246 04		
Map Frames	12 00		
Ice	40 05		
Specie Sack	3 50		
Horse Hire	159 50		
Gas Lamp	7 35		
Harness Repairs	226 97		
Desk	36 00		
Sundry Expense	1,241 72		
		$16,013 16	
SALARIES.			
Commissioner's Salaries	1,312 29		
Office Salaries	18,407 20		
		19,719 49	
ENGINEERING.			
Engineer's Services	2,708 33		
Draughtsman	1,249 99		
Stationery	18 15		
Mounting Maps	25 62		
Supplies	39 28		
Hardware	7 21		
Sundry Expense	106 70		
Labor	442 71		
		4,597 99	
BELLEVILLE FUEL ACCOUNT AND WAGES.			
Coal	21,080 76		
Wood	5 55		
Stable Supplies	232 80		
Horseshoeing	89 35		
Harness Repairs	16 80		
			40,330 64
	$21,425 26		
			$124,120 11

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward	$21,425 26		$124,120 11
Engineer's and Firemen's Wages at Belleville	18,298 83		
Wages—Weekly Pay Roll	1,733 07		
Labor—Handling Coal	1,699 08		
Sundry Expense	47 85		
		$43,204 09	
HIGH SERVICE FUEL ACCOUNT AND WAGES.			
Coal	14,515 19		
Wood	13 25		
Mason Supplies	4 75		
High Service Engineer's and Firemen's Wages	8,525 00		
Wages—Weekly Pay Roll	2,357 56		
		25,415 75	
BELLEVILLE ENGINE STORES.			
Hardware	641 01		
Stationery and Printing	18 00		
Machine Work	2 60		
Boiler Compound	93 33		
Gasoline	411 37		
Soap	5 70		
Testing Scales	5 00		
Oil	1,573 82		
Iron	4 33		
Plumbing	1 50		
Steel	2 54		
Sundry Expense	21 37		
		2,780 57	
HIGH SERVICE ENGINE STORES.			
Hardware	155 71		
Oil, etc	669 87		
Soap	4 75		
Gas	375 76		
Stationery	40		
Mason Work	24 39		
Ice	35 68		
Machine Work	21 03		
Adjusting Scales	21 00		
Sundry Expense	3 50		
		1,312 09	
SERVICE ACCOUNT.			
Use of Smith's Patent Tapping Machine	1,200 00		
Hardware	280 07		
Lead Pipe	5,591 13		
Stop Cocks	2,690 00		
Stand Pipes	2,636 65		
Plumbing	3 63		
Machine Work	16 14		
Castings	193 91		72,712 50
	$12,611 53		$196,832 61

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward.........	$12,611 53		$196,832 61
Rebate........................	8 00		
Sundry Expense.................	1 68		
Plumbers Credits for Joints.......	2,142 65		
Labor........................	9,713 68		
INTEREST—FUNDED DEBT.		$24,477 54	
Amount of Coupon Interest due 1891........................	180,600 00		
Amount of Registered Interest due 1891........................	56,055 00		
WATER METER ACCOUNT.		236,655 00	
New Meters....................	4,421 38		
Sundry Expense.......	49 75		
Labor........................	4 74		
HYDRANT ACCOUNT		4,475 87	
New Hydrants..................		2,471 50	
NEW WATER SUPPLY.			
A. Fteley, Professional Services...	750 00		
C. E. A. Jacobus, Expenses.	700 00		
Horse Hire....................	81 00		
Pipe and Castings..............	1,150 72		
Lumber.......................	69 68		
Stop Gates....................	1,150 00		
Hardware......	25 53		
Inspector's Wages..............	2,611 00		
Sundry Expense..........	1 50		
Labor........................	490 00		
DISTRIBUTING MAIN, NO. 2.		7,029 43	
Payments—Account of Contract...	60,340 33		
Pipe and Castings..............	1,090 94		
Iron	19 78		
Mason Work...................	241 04		
Mason Supplies.....	78 88		
Carting.......................	6 00		
Hardware...	88		
Labor...	464 21		
MISCELLANEOMS ACCOUNTS.		62,242 06	
Time Loans Paid................	40,000 00		
Interest on Time Loans..........	334 24		
Loss and Gain—Water Rents Refunded	15 95		
Insurance......................	141 75		
Bank balances and cash in office, paid to Board of Street and Water Commissioners, April 15, 1891..	19,950 61	60,442 55	
			397,793 95
Total Expenditures.............			$594,626 56
Balance on hand Dec. 31, 1891....			95,263 80
			$689,890 36

STATEMENT OF STREET MAINS LAID DURING THE YEAR ENDING DECEMBER, 1891.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Fourth Street, from Sussex Avenue to dead end at M. & E. R. R. Avenue.	1,056		
Dec. 1890	87 6-inch pipe		$443 70	
	1 16x6 double branch and stops		110 00	
	1 12x6 sleeve and stop		62 00	
	3 stop boxes, frames and covers		15 00	
	2 6x4 single branches		14 70	
	2 4-inch pipe,		4 95	
	1 6x6 single branch		7 53	
	1 6x4 reducer		2 63	
	1175 pounds lead		58 75	
	Yarn and coke		3 00	
	Labor and carting		235 25	
				$957 51
Mar. 1891	*Kossuth and St. Charles Streets main in Kossuth Street from main to St. Charles Street, and in St. Charles Street from dead end, between Komorn and Kossuth Street to Kossuth Street.*	671		
	55 6-inch pipe		280 50	
	3 6-inch Galvin stops		48 00	
	3 6-inch oval stop boxes		12 00	
	3 6x6 inch double branches		26 91	
	2 6x4 inch single branches		14 67	
	2 6-inch pipe plugs		2 45	
	2 6-inch beveled hubs		8 05	
	2 4-inch pipe		4 96	
	780 pounds lead		39 00	
	Yarn and coke		3 00	
	Labor and cartage		115 63	
				555 17
Apr. 1891	*Sixteenth Avenue and South Twelfth Street mains in Sixteenth Ave., from South Eleventh to South Twelfth Street, in South Twelfth Streeth, from Fifteenth to Sixteehth Avenues.*	952		
	78 6-inch pipe		319 80	
	2 6x6 inch double branches		17 82	
	2 6-4 inch single branches		15 05	
	Amount forward		$352 67	$1,512 68

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward		$352 67	$1,512 68
Apr. 1891	*Sixteenth Avenue main*—Continued.			
	2 6-inch Galvin stops		32 00	
	2 4-inch Galvin stops		22 00	
	2 6-inch oval stop boxes		8 00	
	2 4-inch oval stop boxes		7 00	
	2 4-inch iron pipe		4 94	
	4 6-inch pipe plugs		4 79	
	1150 pounds lead		57 50	
	Yarn and coke		2 13	
	Labor and cartage		153 49	644 52
Apr. 1891	*Milford Avenue and Runyon Street main, Milford Ave. from Runyon to Bigelow Streets, Bigelow Street from Elizabeth to Milford Avenues.*	883		
	72 6-inch pipe		295 20	
	1 4x6 double branch		8 64	
	2 6x4 single branch		14 56	
	1 6x6 double branch		8 86	
	1 6x6 single branch		5 12	
	1 6-inch Galvin stop		16 00	
	1 4-inch oval stop box		4 00	
	2 4-inch Galvin stops		22 00	
	2 4-inch oval stop boxes		7 00	
	2 4-inch pipe		4 95	
	4 6-inch pipe plugs		4 76	
	1 6-inch pipe cap		1 23	
	1 4-inch sleeve		1 86	
	1008 pounds lead		50 40	
	Yarn and coke		2 04	
	Labor and cartage		153 76	600 38
Apr. 1891	*Spruce Street main, from Clinton Avenue to Washington Street.*	391		
	32 6-inch pipe,		131 20	
	1 6-inch Galvin stop		16 00	
	1 6-inch oval stop box		4 00	
	1 4-inch oval stop box		3 50	
	1 4-inch Galvin stop		11 00	
	1 4-inch round stop box		3 25	
	1 4-inch pipe		2 48	
	1 6x6 sleeve and stop		27 05	
	1 6-inch oval stop box		4 00	
	1 6x4 single branch		7 38	
	1 6-inch 45° bend		4 34	
	550 pounds lead		27 50	
	Yarn and coke		89	
	Amount forward		$242 59	$2,757 58

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward........		$242 59	$2,757 58
	Spruce Street main,—Continued.			
	Labor and cartage..................		103 50	346 09
Apr. 1891	*Bergen Street from Bigelow Street, south.*	561		
	46 6-inch pipe....................		$188 60	
	2 6-inch Galvin stops............		32 00	
	2 6-inch oval stop boxes.........		8 00	
	1 4-inch Galvin stop.............		11 00	
	1 4-inch Galvin stop box.........		5 00	
	1 4-inch pipe....................		2 48	
	1 6x6 double branch..............		8 86	
	1 6x4 single branch..............		7 42	
	3 6-inch pipe plugs..............		3 68	
	600 pounds lead..................		30 00	
	Yarn and coke....................		3 00	
	Labor and cartage................		156 32	456 36
Apr. 1891	*Garside Street from dead end, between Sixth and Seventh Avenues, to Sixth Avenue.*	420		
	35 6-inch pipe...................		$143 50	
	1 6-inch Galvin stop.............		16 00	
	1 6-inch oval stop box...........		4 00	
	450 pounds lead..................		22 50	
	Yarn and coke....................		2 00	
	Labor and cartage................		84 50	272 50
Apr. 1891	*Eighteenth Avenue main, from South Twelfth to South Fourteenth Streets.*	555		
	45 6-inch pipe...................		$184 50	
	3 6-inch Galvin stops............		48 00	
	3 6-inch oval stop boxes.........		12 00	
	2 4-inch Galvin stops............		22 00	
	2 4-inch Galvin stop boxes.......		10 00	
	2 6x6 double branches............		17 68	
	2 6x4 single branches............		15 33	
	2 4-inch pipe....................		4 95	
	4 6-inch pipe plugs..............		4 93	
	600 pounds lead..................		30 00	
	Yarn and coke....................		3 00	
	Labor and cartage................		147 41	499 80
Apr. 1891	*North End Terrace from dead end east.*	60		
	5 6-inch pipe....................		$20 50	
	85 pounds lead...................		4 25	
	Amount forward...............		$24 75	$4,332 33

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward........		$24 75	$4,332 33
	North End Terrace—Continued.			
	Yarn and coke....................		1 00	
	Labor and cartage		16 50	42 25
May 1891	*Miller Street from Avenue "A," east.*	220		
	18 6-inch pipe....................		73 80	
	1 6-inch Galvin stop............		16 00	
	1 6-inch oval stop box...........		4 00	
	1 4-inch pipe.....................		2 76	
	1 6x4 inch single branch.........		7 16	
	215 pounds lead..................		10 75	
	Yarn and Coke....................		2 00	
	Labor and cartage................		52 57	169 04
May 1891	*South Nineteenth Streeth from Fourteenth Avenue, south.*	874		
	72 6-inch pipe....................		295 20	
	1 4-inch pipe.....................		2 76	
	2 6-inch Galvin stops............		32 00	
	1 6x6 inch double branch........		8 68	
	1 6x4 single branch..............		7 28	
	3 6-inch pipe plugs..............		3 26	
	2 6-inch oval stop boxes		8 00	
	950 pounds lead		47 50	
	Yarn and coke....................		3 00	
	Labor and cartage................		204 44	612 12
June 1891	*South Fourteenth Street, from Springfield to Avon Avenues.*	1,242		
	102 6-inch pipe...................		418 20	
	1 6x6 inch sleeve and stop........		27 40	
	1 6-inch oval stop box...........		4 00	
	3 6-inch Galvin stops............		48 00	
	3 6-inch Galvin stop boxes		12 00	
	2 4-inch Galvin stops		22 00	
	2 4-inch oval stop boxes...		7 00	
	2 4-inch pipe.....................		5 52	
	1 6x6 double branch..............		8 58	
	1 6x4 double branch..............		8 65	
	2 6x4 single branch..............		14 94	
	3 6-inch pipe plugs.......		3 25	
	2 4-inch pipe plugs..............		98	
	1710 pounds lead..................		85 50	
	Yarn and coke.....................		5 00	
	Labor and cartage................		345 69	1,016 71
	Amount forward...................			$6,172 45

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward			$6,172 45
June 1891	*Littleton Avenue Main from Springfield Avenue North.*	235		
	19 6-inch pipe		$77 90	
	1 4-inch pipe		2 76	
	1 6-inch Galvin stop		16 00	
	1 6-inch oval stop box		4 00	
	1 6x6-inch sleeve and stop		27 40	
	1 6-inch oval stop box		4 00	
	1 6x4-inch single branch		8 69	
	1 6-inch beveled hub		4 20	
	1 6-inch pipe plug		1 09	
	350 pounds lead		17 50	
	Yarn and coke		3 00	
	Labor and carting		88 76	255 30
June 1891	*North Third Street, from dead end, between Sixth and Seventh Avenues, north.*	229		
	19 6-inch pipe		77 90	
	1 6-inch pipe plug		1 09	
	250 pounds lead		12 50	
	Yarn and coke		3 00	
	Labor and cartage		52 63	147 12
July 1891	*North Ninth Street, from Fourth to Fifth Avenues.*	814		
	67 6-inch pipe		274 70	
	2 6-inch beveled hubs		7 38	
	2 6x4 inch single branches		14 80	
	2 4-inch pipe		5 53	
	1 6-inch Galvin stop		16 00	
	1 6-inch oval stop box		4 00	
	1 6-inch plug		1 08	
	850 pounds lead		42 50	
	Yarn and wood		3 00	
	Labor and cartage		224 01	593 00
July 1891	*Seventh Avenue from dead end, east of North Twelfth Street, to City Line.*	596		
	48 6-inch pipe		196 80	
	2 6-inch Galvin stops		32 00	
	2 6-inch oval stop boxes		8 00	
	3 4-inch pipe		8 28	
	3 6x6 inch single branches		22 05	
	3 6-4 inch single branches		22 26	
	4 6-inch pipe plugs		4 34	
	745 pounds lead		37 25	
	Amount forward		$330 98	$7,167 87

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward........		$330 98	$7,167 87
	Seventh Avenue main—Continued.			
	Yarn and coke.....................		3 00	
	Labor and cartage..................		171 19	505 17
Aug. 1891	*Kipp and Rose Street mains in Kipp Street, from Winans Avenue to Rose Street, and in Rose Street to dead end.*	421		
	34 6-inch pipe....................		139 40	
	2 6-inch Galvin stops............		32 00	
	2 6-inch Oval stop boxes.........		8 00	
	1 6 to 4 inch reducer............		3 71	
	1 6x6 inch single branch..........		7 63	
	1 6x4 inch single branch..........		7 00	
	1 4-inch pipe....................		2 48	
	1 6-inch pipe plug...............		60	
	450 pounds lead..................		22 50	
	Yarn and coke.		3 00	
	Labor and cartage..................		105 19	331 51
Aug. 1891	*Bergen Street, from Magnolia Street to Waverly Place.*	328		
	27 6-inch pipe		100 70	
	1 6-inch beveled hub.............		3 57	
	1 6-inch oval stop box...........		4 00	
	275 pounds lead................ ...		13 75	
	Yarn and wood....................		2 00	
	Labor and cartage		102 81	226 83
Sep. 1891	*Fairmount Avenue, from Fifteenth to Sixteenth Avenues,*	684		
	56 6-inch pipe....................		229 60	
	2 6-inch beveled hubs............		8 47	
	2 6-inch Galvin stops............		29 00	
	2 6-inch oval stop boxes..........		4 00	
	2 4-inch pipe.....................		4 95	
	2 6x4 inch single branches........		15 23	
	795 pounds lead..................		39 75	
	Yarn and coke.....................		5 00	
	Labor and cartage..................		151 62	487 62
Sep. 1891	*Hillside Avenue, from Clinton Avenue to Alpine Street.*	870		
	71 6-inch pipe....................		291 10	
	3 6-inch Galvin stops		29 00	
	3 6-inch oval stop boxes..........		8 00	
	2 4-inch pipe....................		4 95	
	2 6x4 inch single branches........		15 12	
	Amount forward................		$348 17	$8,719 00

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward........		$348 17	$8,719 00
	Hillside Avenue—Continued.			
	1 6x6 inch single branch.........		7 56	
	1 6-inch 45° bend..............		4 58	
	2 6-inch beveled hubs............		7 59	
	1 6-inch pipe plug...............		1 08	
	930 pounds lead..................		46 50	
	Yarn and coke....................		5 00	
	Labor and cartage.................		257·19	677 67
Sep. 1891	*South Seventh Street, from Bank Street to Eleventh Avenue.*	831		
	68 6-inch pipe..		278 80	
	2 6-inch Galvin stops............		29 00	
	2 6-inch oval stop boxes..........		8 00	
	2 4-inch pipe....................		4 95	
	2 6x4 inch single branches........		14 80	
	2 6-inch beveled hubs............		8 02	
	890 pounds lead..................		44 50	
	Yarn and coke....................		5 00	
	Labor and cartage.................		156 93	550 00
Sep. 1891	*North Eleventh Street from Fifth Avenue, north.*	379		
	31 6-inch pipe....................		127 10	
	2 6-inch Galvin stops......		29 00	
	2 6-inch oval stop boxes..........		8 00	
	1 4-inch pipe....................		2 47	
	1 6-inch pipe plug...............		1 08	
	1 6x6 inch double branch........		8 82	
	1 6x4 inch single branch..........		7 19	
	455 pounds lead..................		22 75	
	Yarn and coke....................		5 00	
	Labor and cartage.................		91 75	303 16
Sep. 1891	*South Fifteenth Street, from Springfield Avenue south to City Line.*	1,656		
	135 6-inch pipe....................		553 50	
	5 6-inch Galvin stops............		72 50	
	5 6-inch oval boxes..............		20 00	
	4 4-inch pipe....................		9 88	
	4 6x4 inch single branches........		30 06	
	2 6x6 inch double branches.......		17 43	
	1 6x4 inch double branch..... ...		8 64	
	1 6x6 inch single branch.........		7 39	
	1 6-inch sleeve..................		3 01	
	1 6-inch beveled hub		3 92	
	5 6-inch plugs		6 38	
	2 4-inch plugs..................		1 26	
	Amount forward...		$733 97	$10,249 83

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward		$733 97	$10,249 83
	South Fifteenth Street—Continued.			
	1920 pounds lead		96 00	
	Yarn and coke		10 00	
	Labor and cartage		394 80	
				1,234 77
Sep. 1891	*Wright Street, from Avenue "B" to Avenue "C."*	754		
	62 6-inch pipe		254 20	
	2 6-inch Galvin stops		29 00	
	2 6-inch oval stop boxes		8 00	
	1 4-inch pipe		2 48	
	1 6x6 inch double branch		8 64	
	1 6x4 single branch		7 31	
	1 6 inch pipe plug		2 13	
	700 pounds lead		35 00	
	Yarn and coke		5 00	
	Labor and cartage		122 25	
				474 01
Oct. 1891	*Madison Street, from Lafayette to Elm Street.*	432		
	36 6-inch pipe		147 60	
	1 6-inch Galvin stop		14 50	
	1 6-inch oval stop box		4 00	
	475 pounds lead		23 75	
	Yarn and coke		3 00	
	Labor and cartage		61 24	
				254 09
Oct. 1891	*Esther Street main, from Albert Avenue, south.*	376		
	31 6-inch pipe		127 10	
	1 6-inch Galvin stop		14 50	
	1 6-inch oval stop box		4 00	
	1 4-inch pipe		2 48	
	1 6x4 inch single branch		7 39	
	1 6-inch pipe plug		1 08	
	375 pounds lead		18 75	
	Yarn and wood		3 00	
	Labor and cartage		94 00	
				272 30
Oct. 1891	*Joseph Street, from Albert Avenue, south.*	430		
	35 6-inch pipe		143 50	
	1 6x4 inch single branch		7 52	
	1 6x6 inch double branch		8 54	
	1 6 to 4 inch reducer		3 78	
	2 6-inch Galvin stops		29 00	
	2 6-inch oval stop boxes		8 00	
	1 4-inch pipe		2 47	
	Amount forward		$202 81	$12,485 00

STATEMENT OF SFREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward		$202 81	$12,485 00
	Joseph Street—Continued.			
	3 6-inch pipe plugs		3 22	
	495 pounds lead		23 75	
	Yarn and coke		3 00	
	Labor and cartage		108 32	
				341 10
Oct. 1891	*Ellwood and Degraw Avenue, Ellwood Avenue from Mt. Prospect to DeGraw Avenue, DeGraw Avenue from Fredonia to Ellwood Avenue.*	2,419		
	133 6-inch pipe		$545 30	
	6 6-inch Galvin stops		87 00	
	6 6-inch oval stop boxes		24 00	
	6 6x6 inch double branches		51 45	
	2 6x4 inch single branches		13 87	
	2 4-inch pipe		4 95	
	12 6-inch pipe plugs		12 67	
	1800 pounds lead		90 00	
	Yarn and coke		5 00	
	Labor and cartage		552 06	
	65 6-inch pipe		266 50	
	3 6-inch Galvin stops		43 50	
	3 6-inch oval stop boxes		12 00	
	1 6x6 inch double branch		8 61	
	1 6x4 inch single branch		7 42	
	1 4-inch pipe		2 48	
	900 pounds lead		45 00	
	Yarn and coke		3 00	
				1,774 81
Oct. 1891	*Parker Street, from Bloomfield Avenue, north.*	732		
	60 6-inch pipe		$246 00	
	1 4-inch pipe		2 48	
	1 6-inch beveled hub		3 67	
	1 6x6 inch sleeve and stop		27 40	
	1 6-inch oval stop box		4 00	
	875 pounds lead		43 75	
	Yarn and coke		3 00	
	Labor and cartage		224 31	
				554 61
	Amount forward			$15,155 52

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward........			$15,155 52
Oct. 1891	*Peshine Avenue, from Clinton Avenue to Bigelow Street.*	798		
	66 6-inch pipe....................		$270 60	
	1 6-inch Galvin stop............		14 50	
	1 6-inch oval stop box...		4 00	
	1 6x4 inch single branch.........		7 39	
	1 4-inch pipe		2 47	
	710 pounds lead..................		35 50	
	Yarn and coke....................		3 00	
	Labor and cartage.................		187 88	
				525 34
Oct. 1891	*Chester Avenue, from Washington Avenue to Old Riverside Road, and on Riverside Road to dead end, north of Delevan Avenue.*	2,384		
	108 6-inch pipe....................		442 80	
	4 6-inch Galvin stops............		58 00	
	4 6-inch oval stop boxes..........		16 00	
	2 4-inch pipe....................		4 94	
	2 6x4 inch single branches........		15 12	
	3 6x6 inch double branches......		25 86	
	1 6-inch sleeve..................		2 90	
	1500 pounds lead..................		75 00	
	Yarn and coke....................		6 00	
	Labor and cartage...		599 28	
	88 6-inch pipe..................		360 80	
	3 6-inch Galvin stops............		43 50	
	3 6-inch oval stop boxes..........		12 00	
	2 4-inch pipe		4 94	
	2 6x4 inch single branches		14 90	
	1 6x6 inch single branch..........		7 38	
	3 6-inch pipe plugs..............		3 17	
	1300 pounds lead		65 00	
	Yarn and coke.....................		5 00	
				1,762 59
Oct 1891	*Oraton Street, from Chester Avenue to dead end, south of Elwood Ave.*	1,396		
	115 6-inch pipe		471 50	
	3 6-inch Galvin stops............		43 50	
	3 6-inch Oval stop boxes.........		12 00	
	3 4-inch pipe..................		7 41	
	1 6x6 inch double branch..........		8 61	
	3 6x4 inch single branches		22 47	
	3 6-inch pipe plugs..............		3 15	
	1675 pounds lead............... ...		83 75	
	Yarn and coke.....................		6 00	
	Labor and cartage		341 14	
				999 53
				$18,442 98

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward........			$18,442 98
Nov. 1891	*Clinton Ave, from Chawwick to Treacey Aves.*	957		
	Avon Avenue, from Treacey to Farley Aves.	336		
	Treaccey Avenue, from Clinton to Avon Aves.	1,415		
	Farley Avenue, from Clinton to Avon Aves.	1,385		
	336 6-inch pipe..................		1,378 76	
	7 6x6 inch double branches.......		61 45	
	7 6x4 inch single branches.......		52 92	
	11 6-inch Galvin stops............		159 50	
	7 4-inch pipe..................		17 34	
	14 6-inch pipe plugs.............		17 42	
	2 stop boxes, frames and covers...		10 00	
	9 6-inch oval stop boxes..........		36 00	
	5270 pounds lead..................		263 50	
	Yarn and coke.		14 00	
	Labor and cartage..................		1,091 11	
				938 55
Nov. 1891	*Chadwick Avenue, from Clinton to Avon Avenues.*	1,364		
	112 6-inch pipe....................		459 20	
	3 6-inch Galvin stops............		43 50	
	2 6-inch oval stop boxes..........		8 00	
	1 4-inch round stop box..........		3 50	
	2 6x4 inch single branches........		15 08	
	2 4-inch pipe,...................		16 73	
	1 6x6 inch double branch.........		8 93	
	1500 pounds lead..................		75 00	
	Yarn and coke.....................		5 00	
	Labor and cartage..................		422 62	
				1,057 56
Nov. 1891	*Jelliff Avenue, from dead end north of Vanderpool Street to Avon Avenue.*	569		
	47 6-inch pipe..................		192 70	
	1 4-inch pipe.............		2 48	
	1 6x4-inch single branch.........		7 03	
	1 6-inch pipe plug...............		1 09	
	450 pounds lead..................		22 50	
	Yarn and coke.....................		3 00	
	Labor and carting..................		190 63	
				419 43
Nov. 1891	*Milford Avenue from dead end, between Vanderpool and Alpine Streets to Bigelow Street.*	1,382		
	114 6-inch pipe....................		467 40	
	4 6-inch Galvin stops		58 00	
	4 stop boxes, frames and covers...		20 00	
	2 6x6 inch double branches.......		17 71	
	Amount forward		$563 11	$20,858 52

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward		$563 11	$20,858 52
	Milford Avenue—Continued,			
	1 6x4 single branch		7 03	
	1 4-inch pipe		2 47	
	4 6-inch pipe plugs		4 38	
	1500 pounds lead		75 00	
	Yarn and coke		5 00	
	Labor and cartage		288 55	
				945 54
Dec. 1891	*Court Street, from Shipman to High Streets.*	253		
	21 4-inch pipe		62 58	
	1 10x4 sleeve and stop		27 86	
	1 stop box, frame and cover		5 00	
	1 4-inch Galvin stop		9 00	
	1 4-inch Galvin stop box		3 00	
	250 pounds lead		12 00	
	Yarn and coke		2 00	
	Labor and cartage		70 56	
				192 50
Dec. 1891	*Belmont and Madison Avenues, Belmont Avenue from Avon to Madison Avenues, 12-inch.*	710		
	Madison Ave., from east of Belmont Avenue to Belmont avenue, 6-inch	48		
	58 12-inch pipe,		622 34	
	4 6-inch pipe		16 40	
	1 12-inch Galvin stop		42 00	
	1 stop box, frame and cover		10 00	
	1 12x6 inch single branch		16 66	
	1 12x4 single branch		14 63	
	2 12-inch 45° bends		27 30	
	1 4-inch pipe		2 98	
	1 12-inch pipe plug		2 46	
	1 6-inch Galvin stop		14 50	
	1 stop box, frame and cover		5 00	
	1 wood repaired box		90	
	1400 pounds lead		70 00	
	Yarn and coke		10 00	
	Labor and cartage		479 00	
				1,334 17
Dec. 1891	*First Street from Seventh Avenue, north.*	262		
	21 6-inch pipe		86 10	
	1 6x4 single branch		7 32	
	1 4-inch iron pipe		2 98	
	2 6-inch 90° bends		7 59	
	1 6-inch Galvin stop		14 50	
	1 stop box, frame and cover		5 00	
	Amount forward		$122 40	$23,330 73

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount forward		$122 40	$23,330 73
	First Street—Continued.			
	1 6-inch plug		1 08	
	230 pounds lead		11 50	
	Yarn and coke		5 00	
	Labor and cartage		80 63	
				221 70
Dec. 1891	*Seventh Avenue, from North Fifth to North Sixth Streets.*	253		
	21 6-inch pipe		86 10	
	1 6-inch Galvin stop		14 50	
	1 stop box, frame and cover		5 00	
	1 4-inch Galvin stop		9 00	
	1 4-inch Galvin stop box		3 00	
	230 pounds lead		11 50	
	Yarn and coke		3 00	
	Labor and carting		56 00	
				188 10
Dec, 1891	*North Thirteenth Street, from Sixth to Seventh Avenues.*	906		
	75 6-inch pipe		307 50	
	2 6-inch Galvin stops		29 00	
	2 stop boxes frames and covers		10 00	
	1 4-inch pipe		2 98	
	1 6x4 inch single branch		7 46	
	900 pounds lead		45 00	
	Yarn and coke		5 00	
	Labor and cartage		219 50	
				626 44
Dec 1891	*Jay Street, from Central Avenue to Dickerson Street.*	268		
	22 6-inch pipe		90 20	
	1 6-inch Galvin gate		14 50	
	1 stop box, frame and cover		5 00	
	1 6x6 inch single branch		7 10	
	1 6-inch pipe plug		1 08	
	245 pounds lead		12 25	
	Yarn and coke		5 00	
	Labor and cartage		201 87	
				337 00
Dec. 1891	*Berkley Avenue, from North Seventh to North Sixth Streets.*	268		
	22 6-inch pipe		90 20	
	1 6-inch Galvin stop		14 50	
	1 stop box, frame and cover		5 00	
	1 6x6 double branch		9 03	
	245 pounds lead		12 25	
	Yarn and coke		5 00	
	Labor and cartage		120 73	
				256 71
	Amount forward			$24,960 68

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward........			$24,960 68
Dec. 1891	*North Sixth Street, from Berkley Avenue, south.*	451		
	37 6-inch pipe....................		$151 70	
	2 4-inch pipe....................		5 96	
	2 6x4 inch single branches........		15 19	
	1 6-inch Galvin stop.......		14 50	
	1 stop box, frame and cover......		5 00	
	500 pounds lead..................		25 00	
	Yarn and coke		5 00	
	Labor and cartage.................		90 97	
				313 32
Dec. 1891	*Adams Street, trom Delancy eo Clifford Streets.*	283		
	Delancy Street. from dead end at Adams to Adams Street,	48		
	23 12-inch pipe		246 79	
	1 12-inch stop....................		42 00	
	1 stop box, frame and cover......		10 00	
	2 12x6 inch double branches......		26 65	
	1 12-inch pipe cap...............		1 75	
	1 12-inch pipe plug,.............		2 41	
	4 6-inch pipe...................		16 40	
	1 6-inch Galvin stop.............		14 50	
	1 stop box, frame and cover......		5 00	
	850 pounds lead..................		42 50	
	Yarn and coke....................		10 00	
	Labor and cartage.................		195 80	
				613 80
Dec. 1891	*Clifford Street, from VanBuren to Adams Streets.*	460		
	38 6-inch pipe....................		155 80	
	2 6-inch stops..................		29 00	
	2 stop boxes, frames and covers...		10 00	
	2 4-inch pipe..................		5 96	
	2 6x4 inch single branches........		14 94	
	500 pounds lead..................		25 00	
	Yarn and coke....................		5 00	
	Labor and cartage.................		174 35	
				420 05
Dec. 1891	*Fourteenth Avenue, from Bergen to Camden Streets.*	264		
	22 6-inch pipe		90 20	
	1 6-inch Galvin stop.............		14 50	
	1 stop box, frame and cover......		5 00	
	251 pounds lead..............		12 50	
	Yarn and coke....................		5 00	
	Labor and cartage.................		84 26	
				211 46
	Amount forward................			$26,519 31

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward........			$26,519 31
Dec. 1891	*Sixth Avenue, from Parker to Aqueduct Streets.*	231		
	19 6-inch pipe		$77 90	
	1 6-inch Galvin stop.............		14 50	
	1 stop box, frame and cover......		5 00	
	1 4-inch pipe....................		2 98	
	1 6x4 inch single branch..........		7 32	
	1 6-inch pipe plug...............		1 08	
	240 pounds lead..................		12 00	
	Yarn and coke....................		5 00	
	Labor and cartage		74 00	
				199 78
Dec. 1891	*Third Avenue, from Mt. Pleasant Avenue to Broad Street.*	288		
	24 6-inch pipe....................		$98 40	
	1 6-inch Galvin stop.............		14 50	
	1 stop box, frame and cover......		5 00	
	1 repaired box...................		90	
	300 pounds lead..................		15 00	
	Yarn and coke....................		5 00	
	Labor and cartage................		108 50	
				247 30
Dec. 1891	*Green Street, from Bruen to McWhorter Streets.*	220		
	18 4-inch pipe..		53 64	
	1 4-inch Galvin stop.............		9 00	
	1 4-inch beveled hub.............		2 13	
	1 6 to 4 inch reducer............		2 62	
	250 pounds lead..................		12 50	
	Yarn and coke....................		3 00	
	Labor and cartage................		63 36	
				146 25
	Street mains of 1890...............			74 63
Dec. 1891	*South Seventh Street, from Central Avenue to Warren Street.*	377		
	31 6-inch pipe...................		127 10	
	1 6-inch Galvin stop.............		14 50	
	1 stop box, frame and cover......		5 00	
	1 4-inch pipe....................		2 98	
	1 6x4 inch single branch.........		7 49	
	375 pounds lead..................		18 75	
	Yarn and coke....................		5 00	
	Labor and cartage................		104 75	
				285 57
				$27,472 84

REPAIRS OF STREET MAINS.

1890.			
Dec.	12.—Repairing break on 3-inch main in Wilburs Alley.		
	1 3-inch sleeve	$1 40	
	55 pounds lead	2 75	
	Yarn and wood	50	
	Labor and cartage	8 29—	$12 94
"	—Emmet Street and N. J. R. R. Avenue, shutting off waste from pipe running to ball grounds.		
	Labor only	2 43—	2 43
1891.			
Jan.	7.—Repairing break on 3-inch main, Market near Beaver Street.		
	1 3-inch sleeve	1 80	
	3 feet 3-inch pipe	63	
	45 pounds lead	2 25	
	Yarn and wood	50	
	Labor and cartage	16 25—	21 43
Feb.	12.—Repairing break on 4-inch main in Essex street, opposite No. 17.		
	1 4-inch pipe	2 48	
	1 4-inch sleeve	1 82	
	40 pounds lead	2 00	
	Yarn and wood	50	
	Labor and cartage	11 29—	18 09
March	24.—Lowering main in Essex Street at James Street, to make way for the distributing main No. 2.		
	1 4-inch beveled hub	2 13	
	12 pieces of 4-inch hub	2 47	
	Labor and cartage	2 13—	6 73
March	26.—Lowering main in Burnet Street at James Street, to make way for the distributing main No. 2.		
	3 4-inch beveled hubs	6 40	
	4 pieces of 4 inch hub	1 24	
	Labor and cartage	7 37—	15 01
			$76 63

	Amount brought forward		$76 63
March	28.—Removing and replacing main in James Street, between Sheffield and Boyden Streets, to make way for the distributing main No. 2.		
	2 4-inch pipe	4 95	
	1 4x4 inch patent sleeve and 4-inch stop	16 75	
	1 4-inch oval stop box	3 50	
	4 feet 4-inch spigot	82	
	1 6-inch cap	1 22	
	75 pounds lead	3 75	
	Yarn and wood	1 00	
	Labor and cartage	19 75	51 74
March	28.—Repairing break on 6-inch main Central Avenue and Halsey Street.		
	6 feet 6-inch spigot	2 55	
	1 6-inch sleeve	2 98	
	45 pounds lead	2 25	
	Yarn and wood	2 00	
	Labor and cartage	22 25	32 03
April	15.—Repairing break on 4-inch main, Hamilton and Ward Streets.		
	1 3-inch pipe	2 90	
	1 3-inch sleeve	1 58	
	50 pounds lead	2 50	
	Yarn, wood and blocks	1 00	
	Labor and cartage	8 56	16 54
April	21.—Putting new stem in stop, corner Garside Street and Sixth Avenue.		
	1 new stem	2 00	
	1 4-inch round box	2 25	
	Labor and cartage	1 00	6 25
April	25.—Putting in new 6-inch Galvin stop, Cutler Street and Sixth Avenue.		
	1 6-inch Galvin stop	16 00	
	1 6-inch Galvin stop box	5 00	
	1 6-inch sleeve	2 90	
	3 feet 6-inch spigot	1 02	
	85 pounds lead	4 25	
	Yarn and wood	1 00	
	Labor and cartage	6 25	36 42
April	25.—Repairing joint on main corner Oliver and McWhorter Streets.		
	Labor only	1 50	1 50
May	21.—Lowering main in Fulton Street, to make way for the distributing main No. 2.		
	4 6-inch ¼ bends	16 10	
	1 piece of 6-inch hub	2 05	
	75 pounds lead	3 75	
	Yarn and wood	2 00	
	Labor and cartage	8 25	32 15
			$253 26

	Amount brought forward		$253 26
June	9.—Repairing break on 3-inch main opposite No. 23 Bridge Street.		
	Labor only	8 25—	8 25
June	25.—Repairing break on 10-inch main corner Broad and Division Streets.		
	1 10-inch sleeve	5 78	
	3½ feet of 10-inch hub	2 87	
	65 pounds lead	3 25	
	Yarn and coke	2 00	
	Labor and cartage,	40 87—	54 77
July	3.—Lowering 6-inch main in River Street at Canal Street, to make way for the distributing main No. 2.		
	2 6-inch ⅛ bends	9 21	
	5 feet 6-inch hub	1 75	
	40 pounds lead	2 00	
	Yarn and wood	1 00	
	Labor and cartage	7 75—	21 71
July	14.—Repairing break on 6-inch main in North Seventh Street, north of Bloomfield Ave.		
	1 6-inch sleeve	2 80	
	3 feet 6-inch hub	1 05	
	30 pounds lead	1 50	
	Yarn and wood	1 00	
	Labor and cartage	9 25—	15 60
July	16.—Repairing break on 24-inch main, Norfolk Street, at north side of the canal.		
	50 pounds lead	2 50	
	Yarn and wood	1 00	
	Labor and cartage	38 75—	42 25
July	20.—Repairing break on 4-inch main on Clay Street, near High Street.		
	1 4-inch sleeve	1 89	
	3 feet 4-inch hub	69	
	30 pounds lead	1 50	
	Yarn and wood	1 00	
	Labor and cartage	17 13—	22 21
July	21.—Repairing break on 4-inch main in Clay Street, near High Street.		
	1 4-inch sleeve	1 89	
	1 4-inch pipe	2 76	
	30 pounds lead	1 50	
	Yarn and wood	1 00	
	Labor and cartage	12 50—	19 55
			$437 60

	Amount brought forward		$437 60
July	22.—Repairing break on 4-inch main in Sussex Avenue, near Summit Street.		
	Labor only	7 00—	7 00
Sept.	10.—Repairing break on 4-inch main in Pennsylvania Avenue, near Thomas Street.		
	1 4-inch sleeve	1 79	
	3 feet 4-inch hub	62	
	25 pounds lead	1 25	
	Yarn and wood blocks	2 00	
	Labor and carting	8 81—	14 47
Nov.	7.—Repairing break on 4-inch main on Broad Street, opposite No. 488.		
	1 4-inch sleeve	1 93	
	6 feet 4-inch hub	1 24	
	30 pounds lead	1 50	
	Yarn and wood	50	
	Labor and cartage	31 93—	37 10
Nov.	10.—Repairing break on 4-inch main on N. J. R. R. Avenue, near Chestnut Street.		
	Labor only	3 12—	3 12
Nov.	20.—Repairing break on 4-inch main on Commerce Street, near Lawrence Street.		
	1 4-inch sleeve	1 78	
	4 feet 4-inch hub	82	
	30 pounds lead	1 50	
	Yarn and wood	50	
	Labor and cartage	8 25—	12 85
Dec.	1.—Repairing break on 4-inch main in Clinton Street, near Beaver Street,		
	1 4-inch sleeve	1 86	
	4 feet 4-inch hub	82	
	25 pounds lead	1 25	
	Yarn and wood	1 00	
	Labor and cartage	7 47—	12 40
Dec.	3.—Repairing break on Atlantic Street, between Lombardy and Bridge Streets.		
	1 4-inch sleeve	1 78	
	4 feet 4-inch hub	82	
	25 pounds lead	1 25	
	Yarn and wood	1 00	
	Labor and cartage	7 81—	12 66
Dec.	5.—Repaired joint on 6-inch main in Broad Street, opposite 1154.		
	Labor only	3 25—	3 25
			$540 45

	Amount brought forward		$540 45
Dec.	19.—Repaired joint on 16-inch main opposite 348 Orange Street.		
	Labor only	2 25—	2 25
Dec.	22.—Repairing break on 4-inch main in West Park Street, near Halsey Street.		
	1 4-inch sleeve	1 86	
	4 feet 4-inch hub	82	
	25 pounds lead	1 25	
	Yarn and wood	1 00	
	Labor and cartage	8 37—	13 30
Dec.	27.—Putting in new stop and box at corner Halsey and Warren Streets.		
	1 4-inch Galvin stop	9 00	
	1 4-inch Galvin stop box	3 00	
	2 feet 4-inch hub	42	
	1 4-inch sleeve	1 78	
	25 pounds lead	1 00	
	Labor and cartage	7 63—	22 83
			$578 83

RENEWED BOXES.

1890.			
Dec.	—1 6-inch wood box, Bremen and Hamburg Place.....	$ 90	
	1 6-inch wood box, Komorn and Hamburg Place....	90—	1 80
1891.			
Jan.	—1 10-inch wood box, Broad St. and Eighth Ave.....	10 00—	10 00
April	—1 4-inch round iron box, Rector and Broad Sts.....	3 25	
	1 6-inch round iron box, Garside St. and Sixth Ave.	3 50	
	1 6-inch round iron box, 13th Ave. and Boston St...	3 50	
	1 6-inch round iron box, Madison and Lafayette Sts.	3 50—	13 75
May.	—1 4-inch round iron box, Campbell & Washington Sts.	3 25	
	1 6-inch round iron box, Madison Place............	3 50	
	1 Galvin round iron box, Broad and Bridge Sts.....	3 00	
	1 6-inch oval iron box, Broad and Gouverneur Sts..	4 00	
	1 6-inch round Iron box, Boyd and Springfield Ave.	3 50	
	1 6-inch round iron box, Division and Park Sts.....	3 50	
	1 4-inch round iron box, Bank and Wickliffe Sts....	3 50—	24 25
June.	—1 6-inch round iron box, Fourth and Belleville Aves,	3 50	
	1 6-inch round iron box, Crittenden St. and Belleville Ave..................................	3 50	
	1 6-inch round iron box, Bergen St. and South Orange Ave..............................	3 50	
	2 6-inch round iron boxes, Belleville Ave. and Gouverneur St..................................	7 00	
	1 4-inch round iron box, Wickliffe and Warren Sts..	3 25	
	1 4-inch round iron box, Cross and Broad Sts......	3 25	
	2 6-inch round iron boxes, Cabinet and Bergen Sts..	7 00	
	1 6-inch round iron box, Bank and Bergen Sts......	3 50	
	1 6-inch round iron box, Bank St. and 13th Ave....	3 50	
	1 6-inch oval iron box, R. R. Place and Passaic hotel,	4 00	
	1 6-inch round iron box, Bergen and Warren Sts...	3 50	
	1 6-inch round iron box, First and Warren Sts......	3 50	
	1 12-inch wood box, First and Orange Sts..........	10 00—	59 00
July.	—2 6-inch round iron boxes, Belleville & Fourth Aves,	8 00	
	1 Galvin round iron box, River St., near Canal St..	3 00	
	1 6-inch oval iron box, Belleville Ave. & Kearny St.	4 00	
	1 6-inch oval iron box, Belleville Ave. & Kearny St.	4 00	
	1 4-inch round iron box, Sussex Ave. and Boyden St.	3 25	
	1 wood box, Belmont Ave. and West Kinney St....	90	
	1 4-inch round iron box, Pennington St. and N. J. R. R. Ave..................................	3 25	
	1 meter box, Belleville and Seventh Aves..........	10 00	
	1 6-inch round iron box, Belleville and Third Aves..	3 25	
	1 6-inch round iron box, Belleville and Third Aves..	3 50	
	1 6-inch round iron box, Belleville and Third Aves..	3 50	
	1 6-inch round iron box, Belleville Ave. and Van Wagenen St..............................	3 50	
	1 6-inch round iron box, North Twelfth St. and Seventh Ave..	3 50—	53 65
			$162 45

	Amount brought forward		$162 45
August—	1 6-inch round iron box, Fitteenth Ave. and Camdem St.	3 50	
	1 6-inch round iron box, Fourteenth Ave. and Camden St.	3 50	
	1 6-inch round iron box, Warren St. and Fairmount Ave.	3 50	
	1 4-inch oval iron box, Winans Ave. and Kipp St.	3 50	
	1 4-inch oval iron box, Ferry and Jefferson Sts.	3 50	
	1 6-inch round iron box, Belleville and Second Aves,	3 50	
	1 6-inch round iron box, Belleville and Second Aves,	3 50	
	1 6-inch round iron box, Belleville Ave. and Oriental St.	3 50	
	1 6-inch round iron box, Belleville Ave. and Oriental St.	3 50	
	2 4-inch Galvin iron boxes, Belleville Ave. near Oriental St.	6 00	
	1 4-inch oval iron box, Bruce St. and South Orange Ave.	3 50	
	1 6-inch round iron box, Wilsey and New Sts.	3 50	
	1 4-inch round iron box, Belleville Ave. and Harvey St.	3 25	
	1 4-inch oval iron box, Belleville Ave. and Nursery St.	3 50	
	1 6-inch oval iron box, Belleville Ave. and Harvey St.	4 00	
	1 6-inch round iron box, Belleville Ave. and Harvey	3 50	
	1 6-inch round iron box, Bergen St. and South Orange Ave.	3 50	
	1 10-inch wood box, Belleville Ave. near Harvey St.	10 00—	72 25
Sept. —	1 6-inch round iron box, Seventh Ave. and Seventh St.	3 50	
	1 6-inch round iron box, Seventh and Orange Sts.	3 50	
	1 6-inch round iron box, Eighth Ave. and Nesbitt St.	3 50	
	1 6.inch round iron box, Bank St. and Fairmount Ave.	3 50—	14 00
Oct. —	1 6-inch round iron box, Lafayette St., near Madison St.	3 50	
	1 6-inch round iron box, Lister Ave. and Joseph St.	3 50	
	1 6-inch round iron box, Esther St. near Albert Ave.	3 50	
	1 6-inch round iron box, Lakewood St., near Albert Ave.	3 50	
	2 wood boxes, Lincoln and Belleville Aves.	1 80	
	1 meter box, Walnut and Jefferson Sts.	10 00—	25 80
Nov. —	1 4-inch round iron box, Hayes and S. Orange Ave.	3 25	
	2 wood boxes, frames and covers, Walnut and Adams St.	10 00	
	1 wood box, frames and covers, Pennsylvania Ave. and South St.	5 00—	18 25
—	2 wood boxes, Linden and Halsey Sts.	1 80—	1 80
			$294 55

SERVICES FROM DECEMBER 1, 1890, TO JANUARY 1, 1892.

MONTHS.	SIZE.	Number New Services.	Number Services Renewed.	Number Taps Only.	No. Taps & Boxes Only.	Number Boxes Only.	Number New Water Takers.	Number Feet of Pipe.	CHARGE.
December 1890	⅝ inch	122	6		5	..	127	2,773^{2}	$ 1,948 00
January, 1891	"	36	..		..	1	37	788	545 88
February, "	"	94	1	1	..	..	95	1,904^{2}	1,427 88
March, "	"	99	2	..	2	3	104	2,138	1,562 14
April, "	"	145	4	..	1	4	150	2,852	2 252 00
May, "	"	146	3	1	5	4	156	2,760	2,219 00
June, "	"	117	3	1	5	3	126	2,499^{2}	1,840 72
July, "	"	147	3	1	2	3	153	3,447	2,292 60
August, "	"	108	8	2	3	5	118	2,422^{2}	1,770 52
September, "	"	86	1	3	3	13	105	1,738^{2}	1,376 00
October "	"	129	2		2	4	135	2,763^{2}	1,990 96
November "	"	148	2	1	3	1	153	3,139^{2}	2,270 00
December, "	"	135	3			4	139	3 015^{2}	2 078 00
Totals		1,512	38	10	31	45	1,598	32,242	$23,573 70

SERVICES FROM DECEMBER 1, 1890, TO JANUARY 1, 1892.

MONTHS.	SIZE.	Number New Services.	Number Services Renewed.	Number Taps Only	No. Taps & Boxes Only.	Number Boxes Only.	Number New Water Takers.	Number Feet of Pipe.	CHARGE.
December, 1890	1 inch.	10	4	..	..	..	10	210	$334 00
January, 1891	"	1	1	..	..	..	1	48½	42 00
February, "	"	8	1	..	..	..	8	173	207 00
March, "	"	3	1	..	1	..	4	80	98 00
April, "	"	13	2	..	..	..	13	347½	341 00
May, "	"	16	3	..	..	..	16	359½	436 80
June, "	"	8	1	..	3	..	11	172	237 00
July, "	"	4	..	..	2	..	6	76	102 00
August, "	"	6	1	..	3	..	9	97½	191 00
September, "	"	10	3	..	1	..	11	391½	305 00
October, "	"	5	1	..	1	..	6	152	144 00
November, "	"	2	3	..	..	..	2	117	118 45
December, "	"	6	2	..	..	..	6	189½	179 00
Totals		92	23		11		103	2,414	$2,735 25

RECAPITULATION.

	SIZE.	Number New Services.	Number Services Renewed.	Number Taps Only.	No. Taps & Boxes Only.	Number Boxes Only.	Number New Water Takers.	Number Feet of Pipe.	CHARGE.
Number Services	⅝ inch.	1,512	38	10	31	45	1,598	32,242	$23,573 70
" "	1 "	92	23	..	11	..	103	2,414	2,735 25
Totals		1,604	61	10	42	45	1,701	34,656	$26,308 95

CONNECTIONS.

MONTHS.	1½ INCH.	2 INCH.	4 INCH.	6 INCH.	TOTAL.
December, 1890	..	2	..	..	2
January, 1891	..	..	..	..	..
February, "	..	..	..	..	..
March, "	..	6	..	2	8
April, "	..	5	1	..	6
May, "	1	10	..	..	11
June, "	..	6	..	..	6
July, "	..	..	..	..	..
August, "	..	1	..	..	1
September, "	1	1	..	..	2
October, "	..	1	2	..	3
November, "	..	..	1	..	1
December "	..	1	..	..	1
Totals	2	33	4	2	41

NEW METERS SET FROM DECEMBER 1, 1891, TO JANUARY 1, 1892.

MONTHS.	½ INCH.	⅝ INCH	¾ INCH.	1 INCH.	1½ INCH	2 INCH.	3 INCH.	4 INCH.	TOTAL.
December, 1890	..	1	..	1	..	..	..	..	2
January, 1891	..	..	..	..	..	1	..	..	1
February, "	..	..	..	2	..	..	1	1	4
March, "	..	2	..	3	..	1	..	..	6
April, "	..	2	1	1	..	4	..	1	9
May, "	..	..	..	2	..	2	..	1	5
June, "	..	1	..	7	..	5	..	..	13
July, "	1	1	..	2	..	2	..	..	6
August, "	..	..	1	3	..	1	..	..	5
September, "	1	1	..	8	1	..	..	..	11
October, "	..	4	..	6	..	..	..	..	10
November, "	1	2	3	3	..	..	..	..	9
December, "	..	1	..	4	..	1	2	..	8
Totals	3	15	5	42	1	17	3	3	89

INVENTORY NO. 1.

STREET MAINS, STOCK AND MATERIAL.

IRON PIPE.

Four inch, 324 feet, at	$ 26	$ 84 24	
Six inch, 756 feet, at	35	264 60	
Eight inch, 24 feet, at	68	16 32	
Ten inch, 312 feet, at	82	255 84	
Twelve inch, 48 feet, at	91	43 68	
Sixteen inch, 156 ft., at	1.50	234 00	
Twenty inch, 36 ft., at	2.17	78 12	
Twenty-four in 144 ft, at	2.67	384 48	
Thirty inch, 180 feet	4 42	795 60—	$2,156 88

SLEEVES.

Two inch, 6, at	$ 40	$ 2 40	
Three inch, 2, at	1 30	2 60	
Four inch, 3, at	1 85	5 55	
Six inch, 5, at	2 80	14 00	
Eight inch, 2, at	3 65	7 30	
Ten inch, 1, at	4 75	4 75	
Twelve inch, 2, at	5 70	11 40	
Sixteen inch, 3, at	7 25	21 75	
Twenty inch, 11, at	8 25	90 75	
Twenty-four inch, 2, at	13 70	27 40	
Thirty inch, 1, at	30 72	30 72—	218 62

BENDS, 90 DEGREES.

Three inch, 6, at	$1 10	$ 6 60	
Four inch, 3, at	2 40	7 20	
Six inch, 1, at	3 75	3 75	
Sixteen inch, 1, at	10 00	10 00 –	27 55

BENDS, 45 DEGREES.

Three inch, 4, at	$1.10	$ 4 40	
Six inch, 1, at	4 23	4 23	
Sixteen inch, 2, at	26 00	52 00—	60 63

BENDS, 65 DEGREES.

Twenty-four inch, 3, at	$26 50	$79 50—	79 50

DOUBLE BRANCHES.

Three by three, 4, at	$3 15	$12 60	
Four by four, 3, at	3 85	8 55	
Eight by six, 1, at	10 50	10 50	
Ten by six, 3, at	11 50	34 50	
Ten by ten, 1, at	13 50	13 50	
Sixteen by six, 3, at	22 50	67 50—	147 15
Amount forward			$2,690 33

Amount brought forward........................ $2,690 33

SINGLE BRANCHES.

Two by two, 2, at	$1 50	$ 3 00	
Three by three, 2, at	2 43	4 86	
Four by two, 1, at	2 35	2 35	
Four by three, 2, at	2 80	5 60	
Three by six, 1, at	6 37	6 37	
Six by three, 1, at	6 37	6 37	
Six by four, 1, at	7 70	7 70	
Eight by six, 1, at	8 58	8 58	
Ten by two, 1, at	8 58	8 58	
Ten by four, 1 at	9 00	9 00	
Ten by six, 1, at	11 00	11 00	
Ten by ten, 3, at	12 95	38 85	
Twelve by four, 1, at	15 00	15 00	
Twelve by eight, 1, at	16 00	16 00	
Sixteen by four, 1, at	23 00	23 00	
Sixteen by six, 4, at	23 25	93 00	
Twenty by four, 1, at	24 25	24 25	
Twenty by twelve, 1, at	30 00	30 00	
Twenty-four by ten, 2, at	40 00	80 00—	393 51

REDUCERS.

Three to two, 4, at	$ 95	$ 3 80	
Four to three, 5, at	2 00	10 00	
Six to four, 2, at	2 95	5 90	
Ten to six, 1, at	9 45	9 45	
Ten to eight, 1, at	10 00	10 00	
Twenty to ten, 2, at	12 00	24 00	
Twenty to sixteen, 1, at	14 50	14 50—	77 65

CAPS.

Two inch, 2, at	$ 25	$ 50	
Three inch, 3, at	31	93	
Four inch, 42, at	42	17 64	
Six inch, 1, at	1 12	1 12	
Ten inch, 1, at	2 00	2 00	
Twelve inch, 2, at	3 00	6 00	
Sixteen inch, 1, at	4 00	4 00	
Twenty inch, 1, at	6 00	6 00	
Twenty-four inch, 3, at	8 00	24 00	
Thirty inch, 2, at	10 80	21 60—	83 79

PLUGS.

Three inch, 2, at	$ 25	50	
Four inch, 50, at	40	20 00	
Six inch, 65, at	60	39 00	
Sixteen inch, 1, at	3 00	3 00	
Twenty inch, 1, at	5 00	5 00	
Thirty inch, 1, at	10 00	10 00	
Twenty-four inch, 1, at	8 00	8 00—	85 50

Amount forward $3,330 78

Amount brought forward	$3,330 78

BEVELED HUBS.

Three inch, 1, at	$1 75	$ 1 75	
Six inch, 1, at	3 92	3 92	
Ten inch, 2, at	9 00	18 00	
Twenty-four inch, 1, at	17 50	17 50	41 17

STOP VALVES.

Three inch, 5, at	$10 00	$ 50 00	
Four inch, 22, (Galvin) at	9 00	198 00	
Four inch, 1, (Hewes & Phillips) at	16 00	16 00	
Six inch, 4, (Galvin) at	14 50	58 00	
Ten inch, 2, (Galvin) at	22 50	45 00	
Ten inch, 5, at	10 00	50 00	
Twenty inch, 1, (Galvin)	127 00	127 00	
Twenty-four inch, 1, (Galvin) at	262 50	262 50	
Twenty inch, 1, (check valve) at	——	———	806 50

A. P. SMITH'S PATENT SLEEVES.

Four by two, 1, at	$3 25	$ 3 25	
Four by three, 4, at	3 50	14 00	
Six by two, 1, at	4 75	4 75	
Six by three, 2, at	4 65	9 30	
Six by four, 5, at	5 00	25 00	
Six by six, 1, at	7 00	7 00	
Twenty by twenty, 1, at	123 00	123 00	186 30

A. P. SMITH'S PATENT STOPS.

Three inch, 2, at	$9 00	$18 00	
Six inch, 1, at	20 00	20 00	
Twenty inch, 1, at	127 00	127 00	165 00

MISCELLANEOUS.

Lead, 4,217 pounds, at	$ 4 75	$200 31	
Yarn, 35 pounds, at	09	3 15	
Twenty by twenty Y branch, 1, at	61 00	61 00	
Sixteen by ten Y branch, 1, at	23 40	23 40	
Six by six angle branch, 3, at	9 85	29 55	
Sixteen by three angle branch, 1, at	20 00	20 00	
Sixteen by twenty-four flanged branch, 1, at	35 75	35 75	
Twenty by sixteen Y branch, 1, at	26 10	26 10	
Sixteen inch flanged pipe, 1, at	12 53	12 53	
Cross piece for 24-inch plug. 1, at	2 88	2 88	
Twenty-four inch curved pipe, 1 length, at	24 00	24 00	
Thirty inch curved pipe, 1 length, at	30 00	30 00	468 67

IRON STOP BOXES.

Six inch, round, 1, at	$3 50	$ 3 50	
Four inch, round. 1, at	3 25	3 25	
Four inch, oval, 3, at	3 50	10 50	
Four inch, Galvin, 6, at	3 00	18 00	35 25

Total	$5,033 67

INVENTORY NO. 2.

GENERAL SUPPLIES.

3 meter boxes at	$8 00	$24 00	
1 meter box cover at	3 95	3 95	
1 meter box frame at	3 95	3 95	
26 wooden stop boxes, 6-inch, at	95	24 70	
1 wooden stop box, 8 feet long, at	1 50	1 50	
1 No. 6 Morgan stop box at	4 75	4 75	
1 No. 8 Morgan stop box at	7 75	7 75—	$70 60

PAINTS.

15 pounds venetian red at	$ 06	$ 90	
4 gallons linseed oil at	50	2 00	
1 barrel, 49½ gallons, kerosene oil at	6 20	6 20—	9 10

HARDWARE.

70 pounds 20-penny nails at	4 cents	$2 80	
50 pounds 10-penny nails at	4 cents	2 00	
80 pounds 8-penny nails at	4 cents	3 20—	8 00

LUMBER.

200 feet 2½x1½ oak at	3 cents	$6 00	
35 feet 4½x⅞x13 pine at	2 cents	70	
400 feet 1¼x14x16 pine at	2 cents	8 00	
80 feet box lumber at	2 cents	1 60	
96 feet 1½x14x14 pine at	2 cents	1 92	
70 feet 2x14x13 pine at	2 cents	1 40	
464 feet ⅞x11x16 cherry at	2 cents	9 28	
168 feet ½x11x12 cherry at	2 cents	3 36	
56 feet 4-inch oak at	3 cents	1 68	
27 feet 3-inch oak at	3 cents	81	
88 feet 10-inch pine at	2 cents	1 76	
1,356 feet 12x12 spruce at	2 cents	27 12—	63 63
Total			$151 33

INVENTORY NO. 3.

BELLEVILLE AND HIGH SERVICE INVENTORIES.

One portable forge	$ 30 00
One anvil	10 00
Rope, blocks and falls	5 00
Two platform scales	120 00
Four coal buckets	320 00
Five iron barrows	100 00
One 3-horse engine	200 00
One drill press	150 00
One shaper	400 00
One lathe and appurtenances, including shafting and counter shafting	600 00
Two chain blocks and falls	25 00
One bench vice	16 00
One carpenters' bench	5 00
One table	3 00
Three forty-gallon cans	15 00
One desk	20 00
One clock	15 00
Two pairs step ladders	5 00
One lawn mower	8 00
Coal hoisting engine	300 00
Apparatus, shed, etc	139 62
Nine chairs	16 75
One stool	2 00
One feather duster	1 75
One pipe vise	15 00
Iron barrows	26 00
Stove and fittings, weighmaster's box	16 66
One wardrobe	5 00
Table	3 00
Eight-day clock	20 00
One platform scale	200 00
One wheelbarrow scale	60 00
Two ladders	8 00
One pair steps	1 00
Four tool closets	12 00
One bench and vice	10 00
One pipe vice	15 00
Stove and fixtures at gate house	18 00
Oil can, Belleville	12 00
Andrew's pump, No. 3	100 00
Pulley for pump	35 00
Oil cabinets	45 00
Weather instruments	32 82
Total	$3,141 60

INVENTORY NO. 4.

OFFICE INVENTORIES—FURNITURE AND FIXTURES ON HAND.

OFFICE.

One cash safe	$400 00
One book safe	150 00
Desks, fittings, fixtures and vault	818 00
One portable desk	55 00
Two portable desks	25 00
One automatic check perforator	37 50
One calendar clock	50 00
Six stools	12 00
Six chairs	24 00
Six office chairs	20 00
One numbering stamp	50 00
One water cooler and stand	10 00
Umbrella stands	15 00
One portable standing desk, 8 feet	38 00
One portable standing desk and case, 15 feet	80 75
Floor coverings, cuspidores, mats, etc	157 00

BOARD MEETING ROOM, COMMISSIONER'S ROOM AND SUPERINTENDENT'S ROOM.

Nine desks	266 00
Gas and electric light and general fittings	112 00
Six chairs	100 00
Three chairs	45 00
Two chairs	50 00
Nine chairs	45 00
One couch	50 00
One table	10 00
Carpets, rugs, mats, cuspidores, etc	265 00
16 rugs	64 00

ENGINEERING AND INSPECTING DEPARTMENT.

Transits	300 00
Level	75 00
Draughting instruments	50 00
Chain and rods	15 00
Maps, rack and fixtures	15 00
Map case	10 00
Three desks, portable	54 00
Two tables	32 00
Three chairs	15 00
Three stools	9 00
One Table	10 00
Six chairs	18 00
Total	$3,552 25

TELEPHONE LINES AND CALLS.

Balance on hand December 31, 1891	$1,200 00

INVENTORY NO. 5.

STABLE INVENTORY—STOCK AND PROPERTY ON HAND DECEMBER 31, 1891.

Two road horses	$600 00
One draught horse	300 00
One draught horse	250 00
Team draught horses	550 00
Two draught horses, Belleville	200 00
One phaeton	325 00
One phaeton	125 00
One phaeton, Belleville	50 00
One depot wagon	200 00
Two business wagons	360 00
One truck wagon	235 00
One pipe truck	250 00
One light team harness	50 00
One heavy team harness	40 00
Two sets single harness	30 00
Two sets buggy harness	50 00
One cart and harness	50 00
Blankets, robes, etc.	35 00
One box sleigh	25 00
Two light sleighs	25 00
One wagon jack	2 00
Forks and brooms	3 00
Pails	2 00
Brushes and combs	2 00
One hundred feet rubber hose	15 00
One feed bin	8 00
One pot stove	5 00
One pipe cutting machine	28 00
Two ⅝-inch tapping machines	200 00
One 1-inch tapping machine	150 00
One 2-inch tapping machine	75 00
One 3 to 4-inch tapping machine	175 00
One 6 to 12-inch tapping machine	300 00
Three derricks	75 00
Two sets blocks and ropes	30 00
Seven jack screws	31 00
Three worm blocks, 4,000 pounds	150 00
One grind stone and frame	10 00
Eighteen stop keys	34 00
Seven lanterns	6 00
Six pipe tongs	12 00
Eight pumps	40 00
One vice	5 00
Seven sledges	6 00
Two Well's lights	200 00
Two diaphragm pumps and suction hose	110 00
Totals	$5,424 00

INVENTORY NO. 6.

HYDRANT ACCOUNT.

Six-inch Galvin hydrant, 1, at	$45 00	$ 45 00
Four-inch hydrants, 8, at	27 00	216 00
Four-inch hydrant, (Crane), 1, at	60 00	60 00
Hewes & Phillips hydrants, 2, at	20 00	40 00
Hydrant soles, 27, at	4 00	108 00
Hydrant heads, 34, at	2 50	51 00
Hydrant corner irons, 24, at	12½	3 00
Total		$523 00

INVENTORY NO. 7.

SERVICE STOCK.

⅝-inch corporation stops, 71, at	$ 65	$46 15
⅝ inch curb stops, 57, at	80	45 60
1-inch corporation stops, 6, at	1 85	11 10
1-inch curb stops, 4, at	1 85	7 40
⅝-inch lead pipe, 890 pounds, at	06	53 40
¾-inch lead pipe, 250 pounds, at	06	15 00
1-inch lead pipe, 407 pounds, at	06	42 42
⅝-inch iron curb stop boxes, 42, at	1 45	60 90
Wood curb stop boxes, 4, at	50	2 00
Iron stop box covers, 9, at	50	4 50
Total		$288 47

INVENTORY NO. 8.

BELLEVILLE FUEL AND STORES ON HAND DECEMBER 31, 1891.

FUEL.

$2,819\frac{581}{2240}$ tons pea coal at $2.28	$6,427 92

STORES.

6 pounds 1-16 sheet packing at 50 cents	3 00
18 pounds ⅛ sheet packing at 50 cents	9 00
5 pounds ¼ square packing at 50 cents	2 50
4 pounds ⅜ square packing at 50 cents	2 00
6 pounds ½ square packing at 50 cents	3 00
10 pounds ⅝ square packing at 50 cents	5 00
8 pounds ⅞ square packing at 50 cents	4 00
28 pounds 1 square packing at 50 cents	14 00
10 pounds ⅜ round packing at 50 cents	5 00
11 pounds ¾ round pocking at 50 cents	5 50
7 pounds ⅝ round packing at 50 cents	3 50
15 pounds 1⅛ round packing at 50 cents	7 50
18 pounds 1⅛ combination packing at 80 cents	14 40
5 pounds ½ combination packing at 80 cents	4 00
12 pounds hemp at 9 cents	1 08
70 pounds manhole gaskets at 60 cents	42 00
6 pounds handhole gaskets at 60 cents	3 60
21 gauge glasses at 25 cents	5 25
3 sheets emery cloth at 5 cents	15
13 boxes potash at 10 cents	1 30
42 bars soap at 4 cents	1 88
2 scrubbers at 50 cents	1 00
4 brooms at 25 cents	1 00
85 balls lamp wick at 5 cents	4 25
20 pounds waste at 10 cents	2 00
15 gallons lard oil at 62½ cents	9 37
40 gallons cylinder oil at 80 cents	32 00
30 gallons kerosene at 16 cents	4 80
4 pounds tallow at 4 cents	16
4 gallons Albany grease at 25 cents	1 00
52 pounds lead at 5 cents	2 60
36 pounds Babbitt metal at 15 cents	5 40
16 pounds nails at 4 cents	64
Total	$6,629 80

INVENTORY NO. 9.

HIGH SERVICE FUEL AND STORES ON HAND DECEMBER 31, 1891.

FUEL.

125 tons coal at $4.70	$587 50

STORES.

20 gallons lard oil at 62½ cents	12 50
10 gallons cylinder oil at 80 cents	8 00
15 bars soap at 4 cents	60
6 boxes pearline at 18⅓ cents	1 10
2 cans lye at 46 cents	92
10 sheets emery cloth at 5 cents	50
5 balls lamp wick at 5 cents	25
10 gauge glasses at 25 cents	2 50
20 pounds combination packing at 80 cents	16 00
10 pounds Tuck's packing at 51 cents	5 10
4 cans whitewash at 12½ cents	50
5 pounds ⅛ sheet rubber at 35 cents	1 75
2 mops, $3.50 per dozen	56
4 pounds 1/18 sheet rubber at 50 cents	2 00
15 pounds American packing at $1.00	15 00
15 handhole gaskets, 5x7, at 60 cents	9 00
5 pounds waste at 10 cents	50
6 manhole gaskets, 10x14, 60 cents	3 60
6 gauge glass waste at 20 cents per dozen	10
Total	$667 98

INVENTORY NO. 10.

HIGH SERVICE PUMPING STATION.

Cold chisels	12
Monkey wrench, 12-inch	1
Monkey wrench, 24-inch	1
Monkey wrench, 6-inch	1
Trowel	1
Metal saws	1
Wood saws	1
Pipe vise	1
Machine vise	1
Spanning wrenches	2
Solid wrenches	10
Stillson wrenches	3
Double wrenches	5
Scoop shovels	2
Brooms	6
Crowbars	1
Hoes	2
Rakes	2
Slice bars	2
Wheelbarrows	2

ELLS.

¼-inch	8
½-inch	1
1¼-inch	1
2-inch	1

TEES.

1-inch	2
2½-inch	2
2-inch union	1

COUPLINGS.

⅜-inch	1
½-inch	1
1½-inch	1
2-inch	1
½-inch angle valve	1

PLUGS.

1¼-inch	1
2-inch	1
2½-inch	1

NIPPLES.

1½-inch	2
2-inch	1
2½-inch	2

GLOBE VALVES.

½-inch	1
¾-inch	2
1-inch	1
1¼-inch	1

INVENTORY NO. 11.

TOOLS ON HAND AT BELLEVILLE PUMPING STATION DECEMBER 31, 1891.

Engine lathe	1
Shaper	1
Drill press	1
Machine vise	1
Pipe vise	1
Hammers	3
One ton differential block	
One-half ton differential block	
Ratchets	2
Screw wrenches	3
Pipe stocks, taps and dies	2
Pipe cutters	2
Indicator	1
2½-inch hose	350 feet
¾-inch hose	100 feet
1-inch hose	100 feet
No. 4 shovels	9
Tube scrapers	2
Taps and dies	22
Machine taps	8
Screw plates	3
Twist drills	20
Breast drill	1
Sets, cans and trays	2
Oil pot	1
Hammers	1
No 2 forge	1
Anvil	1
Sledge	1
Tongs	4
Hardy	2
Suages	2
Flatter	1
Shears	1
Surface plate	1
Augers	2
Hack saw frame	2
Calipers	2
Compass saw	1
Plyers	1
Sets, blocks and fall ropes	2
Grindstone	1
Hand lamps	6
Wheelbarrows	5
Coal buckets, 4 cwt	2
Wheelbarrow scales	2
Clamps	4
Pipe tongs	20
Fire hooks	4
Slice bars	2
Fire hoes	4
Gas machine	1
Gas plyer	1
Lanterns	4
Axe	1
Pinch bars	2
Pick axe	1

ELLS.

¼-inch	5
⅜-inch	9
½-inch	3
¾-inch	15
1¼-inch	9
1½-inch	10
2-inch	10

TEES.

¼-inch	4
½-inch	2
⅜-inch	13
¾-inch	11
1-inch	4
1¼-inch	2
1½-inch	12

UNIONS.

¼-inch	2
⅜-inch	6
¾-inch	5
1¼-inch	8
1½-inch	8
2-inch	6

NIPPLES.

½-inch	6
¾-inch	4
1-inch	9
2-inch	9
2-inch globe valve	1

ANGLE VALVES.

¼-inch	2
½-inch	2
2½-inch	3

PLUGS.

¾-inch	4
2-inch	2

PIPE.

½-inch pipe	40 feet
¾-inch pipe	19 feet
1-inch pipe	18 feet
1¼-inch pipe	15 feet
1½-inch pipe	28 feet
2-inch pipes	28 feet
1-inch pipe, brass	6 feet
¾-inch pipe, brass	6 foet

IRON

⅜-inch, round	15 pounds
½-inch, round	102 poumds
⅝-inch, round	26 pounds
¾-inch, round	130 pounds
⅞-inch, round	256 pounds
1-inch, round	220 pounds
1⅛-inch, round	158 pounds
¾-inch, square	30 pounds
Machine and tool steel	50 pounds

MISCELLANEOUS.

Valve seats	6
Z springs	15
Steam damper	1
Brass castings	30 pounds
Nuts	25 pounds
⅝-inch bolts	12 pounds
Files	12 pounds
Pump Valves	11
Air valves	38

INVENTORY NO. 12.

GENERAL INVENTORY OF STOCK AND OTHER SUPPLIES AND PROPERTY NOT INCLUDED IN FOREGOING INVENTORIES.

Picks	65
Pick handles	72
Crowbars	25
Shovels	68
Setts	33
Yarning irons	8
Hand chisels	30
Hand hatchets	15
Hammers	15
Sledges	7
Wrenches	12
Ladles	5
Set blocks	4
Set ropes	3
Derricks	4
Lead pots	3
Hydrant keys	12
Scrapers	2
Hose butts	4
Axes	3
Hand saws	2
Grindstones	2
Tool box wagons	2
Jack screws	11
Oil cans	5
Screw drivers	6
Pairs rubber boots	4
Steel wedges	9
Paving hammers	3
Water Pails	3

Worm gear blocks	3
Chain slings	3
Gasolene lamps	4
Ladders	1
Lanterns	7
Vise	1

PIPE.

Spigots	75 feet
Spigots	26 feet
Spigots	736 feet
Spigots	8 feet
Spigots	21 feet
Spigots	11 feet
Spigots	72 feet
Spigots	38 feet
Spigots	43 feet
Spigots	28 feet

PIPE.

Hub	190 feet
Hub	91 feet
Hub	16 feet
Hub	7 feet
Hub	36 feet
Hub	10 feet
Hub	16 feet
Hub	21 feet
Hub	26 feet

STATISTICS ON CONSUMPTION

FOR THIRTEEN MONTHS,

Ending December 31, 1891.

ASHES.
72,063
93,275
77,130
92,665
98,080
110,453
120,385
126,483
122,655
114,795
102,715
96,965
1,227,664
95,540
1,251,141

MBER 31ST, 1891.

MONTH.	NO.	.	COAL NO. 3.		COAL NO. 4.		T'L COAL.	ASHES.
		.	FIRING.	BANK'G.	FIRING.	BANK'G.		
Dec., 1890	30	0	....	....	1,090,344	6,301	1,560,673	350,300
Jan., 1891		02	58,615	....	1,056,097	5,480	1,523,183	342,800
Feb., "		82	....	....	975,146	6,575	1,326,699	300,400
March, "		60	....	....	1,074,697	5,763	1,518,264	335,300
April, "	00	09	334,167	3,288	697,069	3,287	1,439,987	319,100
May, "	8	15	334,530	2,737	811,239	4,383	1,602,564	331,100
June, "	11	37	759,188	3,013	896,166	4,384	2,045,850	401,100
July, "	38	88	532,300	2,192	988,269	4,383	2,390,882	517,400
August, "	317	55	666,812	2,192	995,988	4,384	2,467,936	524,200
Sept., "	265	67	572,334	1,096	949,263	4,384	2,064,558	449,000
Oct., "	19	97	151,987	1,096	983,341	3,288	1,659,081	377,900
Nov., "	48	83	91,046	548	917,612	4,658	1,442,301	299,800
Totals (from Nov. 30th, 1890, to Nov. 30th, 1891)	157	48	3,500,979	16,164	11,435,231	57,270	21,041,978	4,548,484
December	469	54	8,829	....	1,029,378	3,288	1,452,392	327,400
Totals (from Dec. 31st, 1890, to Dec. 31st, 1891)	2322	12	3,509,808	16,164	11,374,265	54,257	20,933,698	4,525,500

Highest da .... 1,856,834 Gallons.
Lowest dail .... 1,075,567 "
Daily avera .... 1,337,631 "

STATEMENT OF WORKS OF HIGH SERVICE PUMPING ENGINES FOR 13 MONTHS ENDING DECEMBER 31ST, 1891.

Month.	NUMBER OF HOURS IN OPERATION.			STROKES.			GALLONS.			TOTAL GALLONS.	COAL.		TOTAL COAL.	ASHES.
	No. 1.	No. 2.	No. 3.	No. 1.	No. 2.	No. 3.	No. 1.	No. 2.	No. 3.		Firing.	Banking.		
December, 1890......	50.00	369.00	385.00	167,720	1,355,788	1,292,656	6,306,272	79,313,598	75,620,376	161,240,246	504,490	5,484	509,978	72,063
January, 1891......	90.00	464.00	280.00	255,668	1,659,068	897,084	9,613,117	97,055,478	52,479,414	159,148,009	497,593	1,545	499,138	93,275
February, "	......	672.00	....	....	2,362,552	....	....	138,209,292	....	138,209,292	400,155	3,090	403,245	77,130
March, "	32.00	263.00	481.00	75,160	1,038,228	1,686,236	2,126.016	60 736,338	98,644,806	162,207,160	507,996	......	507,996	92,665
April, "	35.00	415.00	305.00	130,588	1,450,936	1,041,128	4,910,109	84,879,756	60,905,988	150,695,853	482,143	......	482,143	98,080
May, "	192.00	89.00	720.-	595,688	329,060	2,196,920	22,397,869	19,296,810	128,519,820	170,214,499	556,509	......	556,509	110,453
June, "	7.00	720.00	460.00	40,004	2,349,024	1,411,232	1,504,150	137,417,904	82,557,072	221,479,126	604,816	1,545	606,361	120,385
July, "	....	744.00	470.00	....	2,590,076	1,433,048	....	151,519,446	83,833,308	235,352,753	623,562	......	623,562	126,483
August, "	119.00	625.00	675.00	348,308	1,935,960	1,862,508	13,092,621	113,253,660	108,956,718	235,302,999	643,132	......	643,132	122,655
September, "	4.00	707.00	433.00	9,740	2,339,700	1,196,544	366,224	136,872,450	69,997,824	207,236,498	552,183	......	552,183	114,795
October. "	......	744.00	244.00	....	2,074,252	630,004	....	121,343,742	36,855,234	158,198,976	455,569	......	455,569	102,715
November, "	......	720.00	160.00	....	2,108,844	380,456	....	123,367,374	22,256,676	145,624,050	423,536	......	423,536	96,965
Total {from Nov. 30, 1890, to Nov. 30, 1891}	529.00	6532.00	4613.00	1,622,776	21,594,288	14,027,816	61,016,378	1,263,265,848	820,627,236	2,144,909,462	6,251,688	11,664	6,263,352	1,227,664
December..............	......	744.00	147.00	....	2,176,760	333,376	....	127,340,460	19,502,496	146,842,956	429,510	......	429,510	95,540
Total {from Dec. 31, 1890, to Dec. 31, 1891.}	479.00	6907.00	4375.00	1,455,056	22,415,260	13,068,536	54,710,106	1,311,292,710	764,509,356	2,130,512,172	6,176,704	6,180	6,182,884	1,251,141

Highest daily average in July..............7,592,024 Gallons.
Lowest daily average in December........ 4,736,869 "
Daily average for 13 months.................5,787,253 "

Increase of highest daily over last year....................107,016 Gallons.
Increase of lowest daily over last year......................223,707 "
Increase of daily average for the year.............. .....238,137 "

CONSUMPTION STATEMENT FOR 13 MONTHS ENDING DECEMBER 31st, 1891.

MONTHS.		Average daily consumption—gal's.	Number of taps, at beginning of each month.	Average consumption per tap—gal's.	Average consumption per tap, previous years—gal's.	Highest consumption per tap, previous years—gal's.	Lowest consumption per tap, previous years—gal's.	Average monthly temperature.	Rainfall—inches.	Average rainfall, previous years—inches.	REMARKS.
Dec.,	1890	14,458,953	23,265	621	721	853	593	30.00	3.71	3.763	
Jan.,	1891	14,331,653	23,404	612	747	884	616	33 30	7.11	3.707	
Feb.,	"	13,650,500	23,442	582	760	947	689	35.87	4.67	3 527	
March,	"	14,301,524	23.545	608	713	825	600	30.29	4 61	3 912	
April,	"	14,177,280	23,661	509	672	828	597	51.11	2 11	3.680	Total rainfall for the year.............................. 50.59 inches.
May,	"	15.572,513	23,830	654	712	962	617	59 06	2.94	3.946	Total of averages of previous years..................... 50.544 "
June,	"	20,814,472	24,013	867	796	971	728	69.10	2.02	3.577	**Average daily consumption.............................. 16,602,921 Gallons.**
July,	"	22,094,384	24,156	915	822	940	733	69.93	6.73	4.494	**Average daily consumption per tap..................... 664 "**
August,	"	22,247,474	24,315	911	802	965	674	72.37	5.10	5.102	**Total number of taps at the end of the year............ 25.007.**
Sept.,	"	20,054,378	24 443	821	902	931	721	68.86	2 53	3 830	
October,	"	15,960,041	24,561	650	733	924	642	53.44	2.54	3.628	
Nov.,	"	14,065,036	24.705	569	686	998	609	43.45	2.44	3.687	
Dec.,	"	13,911,130	24.861	560	715	853	593	41.27	4.08	3 692	

COMPARATIVE STATEMENT OF CONSUMPTION ON THE HIGH AND LOW SERVICE LEVELS.

FOR 13 MONTHS ENDING DECEMBER 31st, 1891.

SERVICES.	AVERAGE FOR 13 MONTHS.			HIGHEST AVERAGE IN JULY AND AUGUST.			LOWEST AVERAGE IN FEBRUARY AND DECEMBER.		
	Daily Consumption. Gallons.	Number of Taps.	Consumption per tap. Gall's.	Daily Consumption. Gallons.	Number of Taps.	Consumption per tap. Gall's.	Daily Consumption. Gallons.	Number of Taps.	Consumption per tap. Gall's.
Both Levels	16,602,921	25,007	664	August. 22,247,474	24,315	915	February. 13,650,500	23,442	582
Low Level	10,815,668	14.776	732	August. 14,657,055	14,454	1014	February. 8,714,454	14,050	620
High Level	5.787.253	10,231	565	July. 7.592,024	9,780	776	December. 4,736,869	10,161	466

STATEMENT OF DAY AND NIGHT CONSUMPTION, AVERAGED BY WEEK DAYS.

LOW SERVICE.

MONTH.	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	DAY. 7 A. M. to 7 P. M. Gallons.	NIGHT. 7 P. M. to 7 A. M. Gallons.	DAY. 7 A. M. to 7 P. M. Gallons.	NIGHT. 7 P. M. to 7 A. M. Gallons.	DAY. 7 A. M. to 7 P. M. Gallons.	NIGHT. 7 P. M. to 7 A. M. Gallons.	DAY. 7 A. M. to 7 P. M. Gallons.	NIGHT. 7 P. M. to 7 A. M. Gallons.	DAY. 7 A. M. to 7 P. M. Gallons.	NIGHT. 7 P. M to 7 A. M. Gallons.	DAY. 7 A. M. to 7 P. M. Gallons.	NIGHT. 7 P. M. to 7 A. M Gallons.	DAY 7 A. M. to 7 P. M. Gallons.	NIGHT. 7 P. M. to 7 A. M. Gallons.
December, 1890........	4,675,305	4,128,928	5,615,491	4,251,429	5,208,283	4,520,360	5,245,614	4,322,043	4,876,356	4,202,018	5,133,651	4,771,120	5,314,608	4,019,382
January, 1891	4,243,986	4,060,294	5,257,206	4,105,838	5,186,799	3,998,187	5,473,425	4,164,879	5,112,374	3,828,992	5,847,968	3,851,483	5,318,020	3,925,789
Feb., "	4,113,991	3,610,167	5,538,308	3,757,601	5,289,958	3,584,766	5,519,120	3,471,818	5,509,509	3,584,435	5,376,701	3,576,278	5,293,559	3,217,013
March, "	4,376,822	3,549,868	5,628,715	3,739,024	5,599,828	3,591,386	5,642,313	3,860,486	5,684,951	8,743,482	5,467,327	3,774,177	5,440,371	3,405,843
April, "	4,655,175	3,497,670	5,825,537	4,105,905	5,607,676	3,586,408	5,612,891	3,447,296	5,654,555	3,728,701	5,369,381	3,831,038	5,430,651	3,615,042
May, "	4,976,160	4,088,639	6,161,031	4,384,677	5,744,495	4,265,039	6,035,147	4,441,843	6,005,524	4,388,111	6,046,969	3,995,197	6,291,183	4,134,952
June, "	6,413,797	4,776,996	7,751,568	5,305,239	8,414,461	5,914,945	8,617,739	6,267,139	8,472,616	5,490,485	8,215,187	4,905,070	8,263,390	5,413,880
July, "	6,897,099	5,923,310	8,394,729	6,206,299	8,541,489	6,607,875	8,143,480	6,584,770	7,595,259	6,435,122	8,511,755	6,861,849	8,181,806	5,690,855
August, "	7,800,769	5,957,058	8,616,973	6,396,284	8,747,780	6,202,437	8,850,341	6,239,993	9,209,501	5,988,655	8,738,144	6,410,573	8,500,005	5,975,491
Sept'b'r, "	6,420,432	5,115,438	8,260,431	5,549,890	7 980,126	5,215,420	7,827,978	5,383,796	8,301,131	5,442,327	8,062,607	5,668,005	7,747,087	5,155,940
October, "	5,730,989	3,868,349	6,903,426	5,064,135	6,936,667	4,977,828	6,838,266	4,316,083	6,871,325	4,572,058	6,444,322	4,039,994	6,633,728	4,049,036
Nov'b'r, "	4,648,836	3,320,482	6,003,843	3,835,318	5,704,287	3,663,924	5,807,742	3,665,227	5,099,358	3,728,397	5,819,768	3,556,083	5,079,665	3,641,245
Dec'b'r, "	4,255,825	3,517,436	5,204,099	3,514,131	5,418,567	3,640,453	5,210,213	3,643,419	5,359,716	3,653,231	5,020,882	3,781,729	5,138,089	3,411,448
Total {from Nov. 30, 1890, to Nov. 30, 1891 ....}	64,953,361	51,897,199	79,957,258	56,701,639	78,961,849	56,131,575	79,613,856	56,165,372	78,392,459	55,112,783	79,023,780	55,241,867	77,490,073	52,244,468
Total {from Dec. 31, 1890, to Dec. 31, 1891 ....}	64,533,881	51,285,707	79,545,866	55,964,341	79,132,133	55,251,668	79,578,455	55,486,749	78,875,819	54,563,996	78,911,011	54,252,476	77,313,554	51,636,534

STATEMENT OF DAY AND NIGHT CONSUMPTION, AVERAGED BY WEEK DAYS.

HIGH SERVICE.

MONTH.	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	Day. 7 a. m. to 7 p. m. Gallons.	Night. 7 p. m. to 7 a. m. Gallons	Day. 7 a. m. to 7 p. m. Gallons.	Night. 7 p. m. to 7 a. m. Gallons.	Day. 7 a. m. to 7 p. m. Gallons.	Night. 7 p. m. to 7 a. m. Gallons.	Day. 7 a. m. to 7 p. m. Gallons.	Night. 7 p. m. to 7 a. m. Gallons.	Day. 7 a. m. to 7 p. m. Gallons.	Night. 7 p. m. to 7 a. m. Gallons.	Day. 7 a. m. to 7 p. m. Gallons.	Night. 7 p. m. to 7 a. m. Gallons.	Day. 7 a. m. to 7 p. m. Gallons.	Night. 7 p. m. to 7 a. m. Gallons
Dec., 1890.............	2,666,086	2,188,843	3,080,161	2,228,076	3,041,205	2,093,455	2,961,156	2,449,032	2,835,942	2,271,763	2,875,833	2,439,675	2,965,916	2,176,302
Jan., 1891.............	2,632,460	2,206,640	3,038,552	2,322,039	3,077,772	2,310,506	2,945,647	2,310,821	2,864,162	2,016,409	2,997,592	2,139,605	2,914,952	2,170,441
Feb., "	2,620,629	1,919,833	2,685,046	2,057,773	2,650,329	2,105,754	3,029,462	2,076,252	2,913,149	2,137,172	2,925,736	2,135,580	2,813,277	2,166,178
March, "	2,742,229	2,179,437	3,154,187	2,119,433	3,158,518	2,560,033	3,053,341	2,299,215	2,708,061	2,253,464	2,945,939	2,288,060	2,994,629	2,129,320
April, "	2,526,280	1,943,869	3,154,292	2,002,857	3,043,836	2,541,987	3,057,648	2,176,021	3,080,252	1,976,936	2,880,872	2,130,851	2,646,042	1,952,560
May, "	2,707,464	2,068,380	3,847,803	2,104,560	3,408,738	1,962,816	3,541,863	2,063,371	3,746,820	1,976,240	3,657,214	1,996,110	3,173,803	2,041,580
June, "	3,766,957	2,768,596	5,022,928	3,553,810	4,987,943	3,236,480	4,785,041	2,976,494	4,491,199	3,168,613	4,208,496	2,782,054	4,625,514	3,049,882
July, "	4,112,313	2,735,375	4,983,050	3,241,491	4,972,515	2,934,619	4,524,209	2,899,968	4,558,497	2,614,873	4,504,116	2,505,390	4,387,514	3,024,624
August, "	3,903,614	2,790,340	4,743,787	2,862,447	4,647,544	3,111,497	4,645,717	3,328,634	4,588,743	3,208,794	4,680,365	3,085,136	4,699,708	2,751,198
Sept., "	3,824,382	2,450,328	4,276,558	2,527,919	4,708,210	2,527,286	4,199,671	2,446,403	4,101,580	2,727,413	4,546,317	2,194,775	4,662,088	2,750,436
Oct., "	2,928,845	1,963,633	3,568,924	1,852,240	3,115,203	1,927,759	3,281,749	2,073,633	2,998,607	2,059,723	3,190,323	2,036,801	2,936,345	1,989,164
Nov., "	2,530,014	1,864,047	3,232,600	1,782,275	3,072,326	1,887,788	3,139,715	1,836,515	3,147,859	1,808,260	2,840,855	1,840,701	3,402,339	1,778,625
Dec., "	2,442,052	1,903,411	3,062,502	1,797,229	3,073,002	2,059,828	3,133,872	1,967,541	3,011,496	1,970,350	2,899,626	1,931,988	2,766,595	2,026,283
Totals.. { from Nov. 30, 1890 to Nov. 30, 1891.....	36,970,373	27,079,321	44,787,888	28,654,920	43,884,139	28,999,980	43,165,219	28,936,359	42,035,871	28,219,660	42,253,658	27,574,738	42,222,127	27,980,310
Totals.. { from Dec. 31, 1890 to Dec. 31, 1891.....	36,746,339	26,793,889	44,770,229	28,224,073	43,915,936	28,966,353	43,337,935	28,454,878	42,211,425	27,918,247	42,277,451	27,067,051	42,022,806	27,830,291

DAILY CONSUMPTION

FOR THE THIRTEEN MONTHS,

ENDING DECEMBER 31, 1891.

CONSUMPTION STATEMENT.—DECEMBER, 1890.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.
Date............	Gal's.	Gal's.	Gal's. 1	Gal's.	Gal's. 2	Gal's.	Gal's. 3	Gal's.	Gal's. 4	Gal's.	Gal's. 5	Gal's.	Gal's. 6	Gal's.
Low Service.....	....	....	5,784,511	3,752,931	4,570,296	4,041,600	4,331,602	3,777,782	4,477,465	4,110,499	5,228,798	4,436,070	5,330,969	3,974,173
High Service....	....	....	2,931,637	1,986,836	2,833,706	2,137,853	2,760,769	2,404,986	2,997,022	2,312,081	2,795,345	2,095,265	2,779,047	1,951,019
T'l Consumption.	....	....	8,716,148	5,739,767	7,404,002	6,179,453	7,092,371	6,182,768	7,474,487	6,422,580	8,024,143	6,531,335	4,110,016	5,925,192
Date............	7		8		9		10		11		12		13	
Low Service.....	4,691,803	3,669,076	5,845,628	4,171,163	5,132,440	4,692,690	5,539,180	3,856,371	5,094,198	4,961,065	5,310,626	4,284,462	5,529,931	4,019,932
High Service....	2,474,516	2,501,138	2,655,788	2,399.582	3,119,160	2,154,889	3,142,581	2,234,897	3,110,274	2,076,904	3,016,393	2,378,067	3,058,784	2,178,887
T'l Consumption.	7,166,319	6,170,214	8.501,416	6,570,745	8,251,600	6,847,579	8,681,761	6,091,268	8,204,472	7,037,969	8,327,019	6,662,529	8,588,715	6,198,819
Date............	14		15		16		17		18		19		20	
Low Service.....	4,760,992	3,835,542	5,992,074	4,637,844	4,665,324	4,202,789	4,993,278	3,886,300	5,229,742	3,909,570	5,554,561	4,061,557	5,091,197	3,829,491
High Service....	2,668,848	1,994,056	3,229,633	2,160,089	3,002,419	2,234,968	2,780,548	2,231,025	2,817,380	2,277,040	2,898.249	2,608,238	3,029,188	2,303,205
T'l Consumption.	7,429,840	5,829,598	8,221.707	6,797,933	7,667,743	6,437,757	7,773,826	6,117,325	8,047,122	6,186,610	8,452,810	6,659,795	8,120,385	6,132,696
Date............	21		22		23		24		25		26		27	
Low Service.....	4,485,280	4,228,655	4,887,959	4,151,480	5,155,763	4,006,213	5,125,774	5,960,348	4,704,365	3,826,941	4,440,619	4,312,394	5,306,337	4,253,933
High Service....	2,753,228	2,139,665	3,187,520	2,213,177	2,991,057	2,026,362	2,909,139	2,088,002	2,419,092	2,421,029	2,793,347	2,677,033	2,996,646	2,272,098
T'l Consumption.	7,238,508	6,368,320	8,075,479	6,364,657	8,146,820	6,032,575	8,034,913	3,872,346	7,123,457	6,247,970	7,233,966	6,989,427	8,302,983	6,526,031
Date............	28		29		30		31							
Low Service.....	4,763,145	4,782,439	5,567,286	4,543,731	6,517,595	5,658,508	6,238,240	4,129,416	....	....	....	....	....	....
High Service....	2,767,752	2,120,516	3,396,229	2,380,696	3,259,687	1,914,204	3,212,745	3,286,250	....	....	....	....	....	....
T'l Consumption.	7.530.897	6,902,955	9,163,515	6,924 427	9.777,282	7,572,712	9,450,985	7,415.666	....	....	....	....	....	....

CONSUMPTION STATEMENT.—JANUARY, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.
Date............	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	1 Gal's.	Gal's.	2 Gal's.	Gal's.	3 Gal's.
Low Service....	....	....	....	....	....	....	....	....	4,463 961	4,051,307	5,897,454	3,644,119	5,703,314	5,007,410
High Service ..	....	....	....	....	....	....	....	....	3,213,193	1,947,968	2,813,027	2,049,415	2,950,133	2,688,762
T'l Consumption	.. ....	....	....	....	... .	....	....	....	7,677,154	5,499,275	8,710,481	5,693,534	8,653,447	7,696,172
Date............	4		5		6		7		8		9		10	
Low Service....	3,610,516	4,114,793	5.593,055	4,064,864	5,516,074	4,894,354	5,434,028	5,590,847	3,678,895	5,246,847	5,328,843	3,797,514	5,478,373	4,065,855
High Service....	2,931,571	2,316,600	3,133,130	2,421,900	3,338,162	2,586,156	2,985,684	2.756,317	3,259,073	1,980,356	3,564,858	2,421,459	3,072,050	2,150,414
T'l Consumption.	6,542,087	6,431,393	8,726,185	6,486,764	8,854,236	7,480,510	8,419,712	8,347,164	6,937,868	7,127,203	8,893,701	6,218,973	8,550,423	6,216,269
Date............	11		12		13		14		15		16		17	
Low Service......	4,750,891	3,222,183	5,633,664	3,805,301	5,516,152	3,783,941	5,362,671	3.947,002	5,658,054	3,849,300	5,424,228	3,998,060	5,187,831	3,787,948
High Service....	2,169,180	2,347,507	2,977,409	2,383,718	3,091,771	2,242,430	2,950,275	2,336,682	2,808,737	2,247,544	2,808,848	2,194,542	2,856,202	2,357,965
T'l Consumption.	6,920,071	5,569,690	8,611,073	6,189,019	8,607,923	6,026,371	8,312,946	6,283,684	8,466,791	5,996,844	8,233,076	6,192,602	8,044,033	6,145,913
Date............	18		19		20		21		22		23		24	
Low Service.....	4,331,197	3,986,994	4,875,455	4,305,979	5,369,627	3,903,407	5,221,974	3,745,032	5,541,707	3,003,885	4,270,364	4,831,444	5,146,850	3,419,992
High Service....	2,790,220	2,211,871	2,995,550	2,357,332	2,930,073	2,363,007	2,932,413	2,106,028	2,749,079	1,948,653	2,964,395	2,038,024	3,016,376	1,736,451
T'l Consumption.	7,121,417	6,198,865	7,871,005	6,663,311	8,299,700	6,266,414	8,154,387	5,851,060	8,290,786	4,952,538	7,234,759	6,869,468	8,163,326	5,156,443
Date............	25		26		27		28		29		30		31	
Low Service.....	4,283,339	3,921,207	4,926,652	4,247,210	5,345,326	3.411,048	5,875,027	3,376,637	6,219,255	3,493,625	6,268,953	2,986,281	5,073,733	3,347,743
High Service....	2,638,869	1,950,582	3,048,119	2,125,207	2,951,082	2,050,434	2,914,217	2,044,258	2,290,729	1,957,526	2,836,836	1,994,585	2,679,999	1,918,615
T'l Consumption	6,922,208	5,871,789	7,974,771	6,372,417	8,396,408	5,461,482	8,789,244	5,420,895	8,509,984	5,351,151	9,105,789	4,980,866	7,753.732	5,266,358

CONSUMPTION STATEMENT.—FEBRUARY, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.
Date............	Gal's. 1	Gal's.	Gal's. 2	Gal's	Gal's. 3	Gal's.	Gal's. 4	Gal's.	Gal's. 5	Gal's.	Gal's. 6	Gal's.	Gal's. 7	Gal's.
Low Service.....	4,110,067	3,540,473	5,758,059	3,286,109	5,169,676	3,527,737	5,558,007	3,600,709	5,960,233	3,938,545	5,257,715	3,779,748	5,195,362	3,395,323
High Service....	2,609,899	1,921,741	2,958,524	2,024,027	2,838,401	2,036,531	3,209,170	2,169,383	2,987,977	2,431,732	2,938,082	2,064,604	2,885,006	2,052,316
T'l Consumption	6,719,966	5,462,214	8,716,583	5,310,136	8,008,077	5,564,268	8,767,177	5,770,092	8,948,210	6,370,277	8,195,797	5,844,352	8,080,368	5,447,639
Date............	8		9		10		11		12		13		14	
Low Service.....	4,091,278	3,944,601	6,394,294	4,099,552	5,466,613	3,669,455	5,554,674	3,713,474	5,382,794	3,719,006	5,544,624	3,137,254	5,746,892	3,304,132
High Service....	2,584,013	1,903,854	2,034,334	2,329,806	2,664,256	2,182,679	2,918,429	2,061,340	2,896,042	1,884,532	2,883,725	2,122,502	2,828,339	2,129,853
T'l Consumption	6,675,291	5,848,455	8,428,628	6,429,358	8,130,869	5,852,134	8,473,103	5,774,814	8,278,836	5,603,538	8,428,349	5,259,756	8,575,231	5,433,985
Date............	15		16		17		18		19		20		21	
Low Service.....	4,284,453	3,397,264	5,036,137	3,896,699	5,583,248	3,432,498	5,417,408	3,322,144	5,427,085	3,525,933	5,193,059	3,613,917	5,191,893	2,674,430
High Service....	2,629,439	1,978,220	2,830,480	2,308,201	2,851,261	2,151,415	2,872,331	2,084,501	2,829,396	2,237,396	2,925,917	1,792,447	2,762,644	2,415,021
T'l Consumption	6,913,892	5,375,484	7,866,617	6,204,900	8,434,509	5,583,913	8,289,739	5,406,645	8,256,481	5,763,329	8,118,976	5,406,364	7,954,537	5,119,451
Date............	22		23		24		25		26		27		28	
Low Service.....	3,970,167	3,558,320	4,964,742	3,748,047	4,940,298	3,709,375	5,546,391	3,250,945	5,267,924	3,154,258	5,511,406	3,774,195	5,040,092	3,494,168
High Service....	2,659,165	1,874,520	2,916,849	1,569,058	3,047,401	2,052,394	3,117,921	1,989,787	2,939,182	1,995,030	3,065,220	2,562,768	2,777,119	2,037,523
T'l Consumption	6,629,332	5,432,840	7,881,591	5,317,105	7,987,699	5,761,769	8,664,312	5,240,732	8,207,106	5,149,288	8,576,626	6,336,963	7,817,211	5,531,691

CONSUMPTION STATEMENT.—MARCH, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m to 7 a.m	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a m.	7 a.m. to 7 p.m.	7 p.m. to 7 a m.
Date............	Gal's. 1	Gal's.	Gal's. 2	Gal's.	Gal's. 3	Gal's.	Gal's. 4	Gal's.	Gal's. 5	Gal's	Gal's. 6	Gal's.	Gal's. 7	Gal's.
Low Service.....	4,108,269	3,788,473	5,479,148	4,275,148	5,399,472	3,711,671	5,566,639	3,917,549	5,405,352	4,088,376	5,431,590	4,057,450	5,366,819	2,843,561
High Service....	2,726,246	2,026,550	3,272,483	2,508,763	3,064,351	2,491,266	3,103,680	2,432,909	3,156,653	2,459,057	3,014,786	2,389,912	3,213,372	1,994,532
T'l Consumption.	6,834,515	5,815,023	8,751,631	6,783,911	8,463,823	6,202,937	8,670,319	6,350,458	8,562,005	6,547,433	8,446,376	6,447,362	8,580,191	4,838,093
Date............	8		9		10		11		12		13		14	
Low Service.....	4,736,247	3,388,810	5,673,218	3,555,174	5,683,084	3,276,082	5,602,945	3,725,658	5,593,767	3,515,226	5,464,926	3,884,932	5,417,346	3,792,023
High Service....	2,556,515	2,125,178	3,018,847	2,021,002	3,101,245	2,663,766	2,947,994	2,323,702	2,844,755	2,235,349	3,090,474	2,228,706	2,848,392	2,304,300
T'l Consumption.	7,292,762	5,513,988	8,692,065	5,576,176	8,784,329	5,939,848	8,550,939	6,049,360	8,438,522	5,750,575	8,555,400	6,113,638	8,265,738	6,096,323
Date............	15		16		17		18		19		20		21	
Low Service.....	4,848,142	3,536,624	5,749,622	3,748,479	5,736,657	3,652,497	5,825,767	3,810,023	6,482,385	3,708,439	5,466,769	3,489,545	5,432,231	3,384,336
High Service....	2,620,651	2,304,635	3,086,538	1,921,062	3,370,298	2,334,700	3,075,238	2,257,646	1,939,846	2,394,995	2,885,931	2,224,519	2,893,248	2,159,102
T'l Consumption.	7,468,793	5,841,259	8,836,160	5,669,541	9,106,955	5,987,197	8,901,005	6,067,669	8,422,231	6,103,434	8,352,700	5,714,064	8,325,479	5,543,438
Date............	22		23		24		25		26		27		28	
Low Service.....	4,013,123	3,720,660	5,465,624	3,538,764	4,698,937	3,763,713	5,573,904	3,988,714	5,258,301	3,661,887	5,506,026	3,664,784	5,415,109	3,603,452
High Service....	2,609,909	2,031,315	3,018,854	2,121,723	3,978,019	2,117,845	3,086,453	2,182,603	2,890,992	2'234,455	2,792,567	2,309,105	3,023,507	2,159,348
T'l Consumption.	6,623,032	5,751,975	6,484,478	5,660,487	8,676,956	5,881,558	8,660,357	6,171,317	8,149,293	5,896,342	8,298,593	5,973,889	8,438,616	5,762,800
Date............	29		30		31									
Low Service.....	4,178,331	3,314,774	5,775,966	3,577,554	6,480,994	3,567,970	....	....	....	....	... ..	....	....	....
High Service....	3,197,824	2,409,510	3,374,216	2,024,615	2,278,680	2,192,591	....	....	....	....	....	.. ....	....	....
T'l Consumption.	7,376,155	5,724,284	9,150,182	5,602,169	8,759,674	5,760,561	....	....	....	....	....	....	....	....

CONSUMPTION STATEMENT—APRIL, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.
Date.............	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's	Gal's. 1	Ga'ls.	Gal's. 2	Gal's.	Gal's. 3	Gal's.	Gal's. 4	Gal's.
Low Service.....	....	....	....	....	....	....	5,719,193	2,973,289	5,377,348	3,461,372	5,255,482	3,598,624	5,496,230	3,392,509
High Service.....	....	....	....	....	....	....	2,910,393	2,287,638	2,818,779	2,028,531	2,798,314	2,026,010	2,467,258	1,958,384
T'l Consumption	....	....	......	....	....	....	8,629,586	5,260,927	8,196,127	5,489,903	8,053,796	5,624,634	7,963,488	5,350,893
Date.............	5		6		7		8		9		10		11	
Low Service.....	4,888,321	2,984,860	5,176,357	3,996,841	5,000,762	3,676,198	5,197,069	3,409,063	5,635,560	3,515,892	5,143,428	3,590,633	4,863,873	3,788,721
High Service.....	2,594,987	2,095,178	3,205,766	2,135,937	2,860,128	2,200,639	2,928,461	2,077,432	2,866,088	1,985,711	2,616,848	1,785,117	2,673,913	1,993,271
T'l Consumption	7,483,308	5,080,038	8,382,123	6,135,778	7,860,890	5,876,837	8,125,530	5,486,495	8,501,648	5,501,603	7,760,276	5,375,750	7,537,786	5,781,992
Date.............	12		13		14		15		16		17		18	
Low Service.....	4,188,639	3,450,801	5,416,037	3,797,944	5,384,447	3,990,903	5,547,952	3,680,710	5,214,714	3,819,737	5,329,537	3,875,074	5,459,822	3,277,513
High Service....	2,276,362	1,868,192	3,025,513	2,105,235	2,935,666	1,984,162	3,076,117	2,066,515	2,912,328	2,113,069	3,024,833	1,969,797	3,014,822	1,921,408
T'l Consumption	6,465,001	5,318,993	8,441,550	5,903,179	8,320,113	5,975,065	8,624,069	5,747,225	8,627,072	5,932,806	8,354,370	5,844,871	8,474,644	5,198,921
Date.............	19		20		21		22		23		24		25	
Low Service.....	4,501,097	3,767,835	6,351,118	4,090,600	6,269,280	3,317,424	5,790,517	3,948,854	5,796,302	3,216,310	5,749,079	4,259,824	5,902,681	4,001,425
High Service....	2,634,323	2,054,308	2,908,514	1,949,326	2,709,698	2,772,326	3,069,179	2,053,983	2,924,171	2,096,226	3,083,496	2,742,480	2,428,175	1,937,180
T'l Consumption	7,135,420	5,822,143	9,259,632	6,039,926	8,978,978	6,089,750	8,859,696	6,002,837	8,720,473	5,312,536	8,832,575	7,002,304	8,330,856	5,938,605
Date.............	26		27		28		29		30					
Low Service.....	5,042,644	3,787,186	6,353,639	4,538,236	5,776,215	3,361,109	5,809,727	3,224,567	5,748,825	4,630,195	....	....	....	....
High Service....	2,599,450	1,757,799	3,477,376	1,820,931	3,669,855	3,210,822	3,304,092	2,394,538	3,879,897	1,661,147	....	....	....	....
T'l Consumption	7,642,094	5,544,985	9,836,015	6,359,167	9,446,070	6,571,931	9,113,819	5,619,105	9,628,722	6,291,342	....	....	....	....

CONSUMPTION STATEMENT.—MAY, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m to 7 a m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m to 7 p m.	7 p.m. to 7 a m.	7 a.m. to 7 p m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m to 7 a m.
Date......	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's. 1	Gal's.	Gal's. 2	Gal's.
Low Service.....	....	....	....	....	....	....	....	....	....	....	6,200,966	4,484,363	6,871,961	4,342,098
High Service....	....	....	....	....	....	....	....	....	....	....	3,803,711	1,676,878	2,957,185	1,903,532
T'l Consumption.	....	....	....	....	....	....	....	....	....	....	10,004,677	6,161,241	9,829,146	6,245,630
Date......	3		4		5		6		7		8		9	
Low Service.....	4,631,657	3,622,965	6,411,385	4,078,416	5,583,956	3,957,979	5,371,460	4,497,024	6,045,755	3 592,228	6,064,076	3,853,068	6,151,677	3,498,384
High Service....	2,440,915	1,807,988	3,575,224	1,633,788	3,214,916	1,881,720	3,136,453	1,731,898	3,440,927	1,925,478	3,371,691	2,072,087	2,431,494	1,637,685
T'l Consumption.	7,072,572	5,430,953	9,986,609	5,712,204	8,798,872	5,839,699	8,507,913	6,228,922	9,486,682	5,517,706	9,435,767	5,925,155	8,583,171	7,136,069
Date	10		11		12		13		14		15		16	
Low Service.....	4,517,799	5,295,314	6.270,286	4,660,623	5,691,506	4,898,969	6,109,942	4,672,152	5,078,742	4,659,016	5,724,262	3,866,954	5,524,075	3,594,812
High Service....	3,116,632	2,346,206	4,264,238	2,345,923	3,805,725	1,559,645	4,035,046	2,023,208	4,458,433	2,268,677	3,243,822	1,759,815	2,935,126	1,922,061
T'l Consumption.	7,634,431	7,641,520	10,534,524	7,006,546	9,497,231	6,458,614	10,144,988	6,695,360	9,537,175	6,927,693	8,968,084	5,626,769	8,459,201	5,516,873
Date......	17		18		19		20		21		22		23	
Low Service.....	4,584,416	3,805,509	5,676,062	4,420,785	5,498,923	4,113,474	5,643,694	3,980,144	6,064,519	4,804,997	5,711,021	4,408,985	5,861,006	4,338,411
High Service....	2,460,349	1,842,730	3,712,151	1,817,878	3,320,651	1,928,754	3,572,697	2,003,001	3,543,716	1,637,566	4,748,202	2,391,821	3,657,857	2,550,605
T'l Consumption.	7,044,756	5,648,239	9,388,213	6,238,663	8,819,574	6,042,228	9,216,391	5,983,145	9,608,235	6,442,563	10,459,223	6,800,806	9,518,863	6,889,016
Date......	24		25		26		27		28		29		30	
Low Service.....	5,184,976	2,692,844	6,286,391	4,398,884	6,203,597	4,089,736	7,015,495	4,618,053	6,833,083	4,496,203	6,554,524	3,367,618	7,047,200	4,901,068
High Service....	2,567,737	2,092,938	3,839,601	2,621,653	3,693,661	2,481,147	3,423,256	2,495,379	3,544,204	2,073,240	3,118,645	2,079,953	2,887,356	2,194,018
T'l Consumption.	7,752,713	4,785,782	10,125,992	7,020,537	9,897,258	6,570,883	10,438,751	7,113,432	10,377,287	6,569,443	9,673,169	5,446,571	8,934,556	7,095,086
Date......	31													
Low Service.....	5,961,952	5,026,564	....	....	....	....	....	....	....	....	....	....	....	....
High Service....	2,951,696	2,252,038	....	....	....	....	....	....	....	....	....	....	....	....
T'l Consumption.	8,913,648	7,278,602	....	....	....	....	....	....	....	....	....	....	....	....

CONSUMPTION STATEMENT.—JUNE, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p. m	7 p.m. to 7 a. m.	7 a. m. to 7 p m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m to 7 a. m.
Date...............	Gal's.	Gal's.	Gal's. 1	Gals	Gal's. 2	Gal's.	Gal's. 3	Gal's.	Gal's. 4	Gal's	Gal's. 5	Gal's	Gal's. 6	Gal's.
Low Service......	....	...———	5,944,480	4,500,024	7,489,789	5,738,381	8,224,521	6,249,636	7,819,540	5,221,037	7,332,602	4,724,711	7,444,745	4,967,980
High Service......	....	....	5,386,392	4,108,573	4,688,198	2,982,133	4,372,719	4,281,762	4,187,245	2,328,889	3,681,593	2,197,495	3,669,161	2,434,593
Total Consumption	....	....	11,330,872	8,608,597	12,177,987	8,720,524	12,597,240	9,531,398	12,006,785	7,549,926	11,014,195	6,912,206	11,113,906	7,402,573
Date......	7		8		9		10		11		12		13	
Low Service.......	5,507,030	3,976,904	7,266,892	5,963,078	7,901,838	6,297,760	7,842,569	6,590,270	8,272,085	4,842,743	9,019,086	5,206,988	9,394,665	5,190,819
High Service	2,547,370	1,892,937	4,147,516	2,319,431	4,657,508	1,749,360	5,517,642	1,826,542	5,157,929	4,138,662	4,408,042	3,010,828	5,381,402	3,784,452
Total Consumption	8,054,400	5,869,841	11,414,408	8,282,509	12,559,346	8,047,120	13,360,211	8,416,812	13,430,014	8,981,405	13,427,128	8,217,816	14,776,067	8,975,271
Date...............	14		15		16		17		18		19		20	
Low Service.......	6,780,895	6,070,933	8,450,457	6,523,934	9,212,545	5,875,819	8,992,402	6,100,992	8,080,318	5,561,959	7,794,017	4,795,186	7,797,002	6,707,023
High Service......	4,428,328	2,842,700	5,681,959	3,922,889	5,415,608	3,439,371	5,153,333	3,374,314	3,664,930	2,218,880	3,545,937	2,318,242	4,447,293	2,008,080
Total Consumption	11,209,223	8,913,633	14,132,416	10,446,823	14,628,153	9,315,190	14,145,735	9,475,306	11,745,248	7,780,839	11,339,954	7,113,428	12,244,295	8,715,103
Date...............	21		22		23		24		25		26		27	
Low Service.	6,687,950	4,055,811	8,636,372	4,915,059	8,662,398	6,548,113	9,411,466	6,127,659	9,718,524	6,336,201	8,715,044	5,893,395	8,417,148	4,789,701
High Service......	3,650,001	3,148,763	4,895,562	3,611,040	5,062,300	4,010,784	4,096,472	3,423,359	4,954,695	3,988,024	5,198,415	3,601,653	5,001,201	3,972,403
Total Consumption	10,337,951	7,204,574	13,531,934	8,526,099	13,724,698	10,558,897	13,507,938	9,551,018	14,673,219	10,324,225	13,913,459	9,495,048	13,421,349	8,762,104
Date...............	28		29		30									
Low Service.......	6,679,314	5,004,337	8,459,640	4,624,100	8,805,738	5,114,652	....	....	....	....	....	....	....	....
High Service......	4,442,131	3,189,984	5,003,211	3,807,118	5,116,104	4,000,152	....	....	....	....	....	....	....	....
Total Consumption	11,021,445	8,194,321	13,462,851	8,431,218	13,921,842	9,114,804	....	....	....	....	....	....	....	....

CONSUMPTION STATEMENT.—July, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p m.	7 p. m. to 7 a. m.
Date..............	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's. 1	Gal's.	Gal's. 2	Gal's.	Gal's. 3	Gal's	Gal's. 4	Gal's.
Low Service.......	....	....	....	....	....	....	8,079,403	7,024,209	7,975,307	7,204,003	8,330,290	7,075,986	8,995.193	6,391,032
High Service......	....	....	....	....	....	....	4,105,116	2,140,905	4,306,104	2,209,178	4,875,126	2,908,115	4,006,112	2,015,108
Total Consumption	....	....	....	....	....	....	12,184,519	9,165,114	12,281,411	9,413,181	13,205,416	9,984,101	12,001,305	8,406,140
Date..............	5		6		7		8		9		10		11	
Low Service.......	6,842,373	5,734,224	8,612,039	6,457,993	8,603,026	6,279,124	7,553,197	6,402,433	5,549,236	6,619,991	9,766,037	6,568,040	7,227,849	4,132,457
High Service......	4,227,499	2,999,497	5,000,823	2,792,299	4,852,455	3,305,020	3,920,552	3,235,994	5,027,919	1,971,557	2,862,648	2,120,883	4,582,83[illegible]	4,278,719
Total Consumption	11,069,872	8,733,721	13,612,862	9,250,292	13,455,481	9,584,144	11,473,749	9,638,427	10,577,155	8,591,548	12,628,685	8,688,923	11,810,685	8,411,176
Date..............	12		13		14		15		16		17		18	
Low Service.......	6,731,892	5,444,735	8,660,494	6,464,455	8,431,406	6,279,124	8,388,863	7,036,013	8,382,890	6,762,775	8,762,781	6,726,409	8,580,878	6,583,278
High Service......	3,948,287	2,689,522	5,496,185	3,431,120	5,177,345	3,305,020	5,152,142	2,532,841	5,099,369	2,937,878	5,155,534	3,328,182	4,249,364	2,640,683
Total Consumption	10,680,179	8,134,257	14,156,679	9,895,575	13,608,751	9,584,144	13,541,005	9,568,854	13,482,259	9,700,653	13,918,315	10,054,591	12,830,242	9,223,961
Date..............	19		20		21		22		23		24		25	
Low Service.......	7,598,909	6,955,509	8,598,243	6,086,181	9,031,643	6,662,119	8,853,984	6,470,226	7,707,959	7,185,359	7,403,202	6,878,719	8,023,305	5,656,655
High Service	4,202,318	2,737,435	4,417,652	3,589,993	5,018,058	3,275,892	4,929,371	3,273,813	4,986,704	3,265,214	5,127,224	2,143,183	4,721,745	3,167,987
Total Consumption	11,801,227	9,692,944	13,015,895	9,656,174	14,049,701	9,938,011	13,783,355	9,744,089	12,694,663	10,450,573	12,530,426	8,921,902	12,745,050	8,824,642
Date..............	26		27		28		29		30		31			
Low Service.......	6,415,224	5,559,773	7,708,141	5,836,566	8,099,883	6,414,376	7,841,966	5,984,172	8,360,897	4,403,486	8,296,566	7,060,094	....	....
High Service......	4,071,151	2,515,046	5,017,541	3,152,555	4,842,204	2,550,804	4,513,867	3,316,287	3,392,391	2,690,541	4,500,052	2,026,591	....	....
Total Consumption	10,486,375	8,074,819	12,725,682	8,989,121	12,942,087	8,965,180	12,355,833	9,300,459	11,733,288	7,094,027	12,796,618	9,086,685	....	....

CONSUMPTION STATEMENT.—AUGUST, 1891.

	Sunday.		Monday.		Tuesday.		Wednesday.		Thursday		Friday.		Saturday.	
	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.	7 a. m. to 7 p m.	7 p. m. to 7 a. m.	7 a. m. to 7 p. m.	7 p. m. to 7 a. m.
Date............	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's. 1	Gal's.
Low Service......	....	....	....	....	....	....	....	....	....	....	....	....	8,805,056	5,491,348
High Service.....	....	....	....	....	....	....	....	....	....	....	....	....	4,209,603	2,850,896
T'l Consumption..	....	....	....	....	....	....	....	....	....	....	....	....	13,014,659	8,342,244
Date............	2		3		4		5		6		7		8	
Low Service......	7,215,101	5,852,424	9,448,815	6,276,227	8,548,720	5,895,581	8,653,827	4,912,962	9,716,185	4,420,142	8,317,650	5,819,752	8,625,468	5,833,637
High Service.....	4,495,521	3,111,658	4,291,580	2,871,287	4,559,703	2,558,220	4,172,021	3,848,828	4,372,181	3,041,889	4,570,983	3,285,520	4,712,794	3,323,917
T'l Consumption..	11,710,622	8,964,082	13,740,395	9,147,514	13,108,423	8,453,801	12,825,848	8,761,790	14,088,366	7,462,031	12,888,633	9,105,272	13,339,262	9,157,554
Date	9		10		11		12		13		14		15	
Low Service......	8,763,653	6,102,518	9,039,148	6,723,932	9,331,175	6,824,162	9,402,982	6,645,382	9,340,148	6,240,149	9,220,691	6,608,517	8,295,658	6,934,536
High Service.....	4,021,606	2,703,487	5,301,904	3,515,755	5,250,031	3,436,538	5,055,121	3,333,158	4,719,961	3,539,294	4,929,868	3,400,410	5,258,362	3,092,459
T'l Consumption..	12,785,259	8,806,005	14,341,052	10,238,687	14,581,206	10,260,700	14,458,103	9,978,440	14,060,109	9,779,443	14,150,559	10,008,927	13,554,020	10,026,995
Date...........	16		17		18		19		20		21		22	
Low Service......	8,304,482	5,175,976	9,410,422	6,763,911	8,808,661	6,165,138	8,711,930	6,690,852	8,976,842	6,392,635	9,023,541	6,281,236	8,165,865	5,309,953
High Service.....	3,829,841	3,085,198	4,984,273	3,321,611	4,823,189	3,226,647	4,636,118	3,172,406	4,709,947	3,144,731	4,610,073	2,734,742	5,282,513	3,087,494
T'l Consumption..	12,134,323	8,261,174	14,394,695	10,085,522	13,631,850	9,391,785	13,348,048	6,863,258	13,686,789	9,537,366	13,633,614	9,015,978	13,448,378	8,397,447
Date............	23		24		25		26		27		28		29	
Low Service......	6,842,636	5,723,256	8,558,162	5,751,086	8,302,566	5,924,868	8,632,625	6,710,778	8,804,829	6,901,694	8,390,697	6,932,788	8,606,982	6,307,983
High Service.....	4,054,660	2,898,402	4,639,713	3,072,254	4,757,255	3,224,584	4,719,608	2,960,145	4,552,893	3,109,265	4,610,537	2,919,873	4,035,268	1,501,228
T'l Consumption..	10,897,296	8,622,658	13,197,875	8,823,340	13,059,821	9,149,452	13,352,233	9,670,923	13,357,722	10,010,959	13,001,234	9,852,661	12,642,250	7,809,211
Date............	30		31											
Low Service......	7,877,974	6,931,120	6,628,320	6,466,258	....	....	....	....	....	....	....	....	....	....
High Service.....	3,116,543	2,152,956	4,501,467	1,651,329	....	....	....	....	....	....	....	....	....	....
T'l Consumption..	10,994,527	9,084,076	10,129,787	8,117,587	....	....	....	....	....	....	....	....	....	....

CONSUMPTION STATEMENT.—SEPTEMBER, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.
Date...............	Gal's.	Gal's.	Gal's.	Gal's.	Gal's. 1	Gal's.	Gal's. 2	Gal's.	Gal's. 3	Gal's.	Gal's. 4	Gal's.	Gal's. 5	Gal's.
Low Service........	....	....	....	....	8,323,057	5,911,753	8,411,405	6,113,624	9,072,924	5,712,730	8,047,711	5,338,676	6,897,391	5,912,799
High Service......	....	....	....	....	5,252,745	2,036,951	5,028,891	3,010,156	4,050,445	2,916,742	4,536,114	2,957,096	4,400,219	2,258,368
T'l Consumption..	....	....	....	....	13,575,802	7,978,704	13,440,296	9,123,780	13,123,369	8,629,472	12,583,825	8,295,772	11,297,610	8,171,167
Date...............	6		7		8		9		10		11		12	
Low Service........	6,538,449	5,119,851	7,327,594	5,060,402	6,114,536	3,869,303	7,510,799	4,014,910	7,874,601	5,191,587	7,505,633	6,202,623	7,906,461	5,567,581
High Service......	3,045,197	2,814,641	4,426,497	3,346,058	4,194,963	3,514,939	3,495,033	2,295,531	3,468,519	2,640,889	4,292,059	1,343,227	4,151,097	2,518,535
T'l Consumption..	9,583,646	7,934,492	11,754,091	8,406,460	10,309,499	7,384,242	11,005,832	6,310,441	11,343,120	7,832,476	11,797,692	7,545,850	12,057,558	8,070,116
Date...............	13		14		15		16		17		18		19	
Low Service........	6,492,555	5,078,561	8,393,731	4,885,552	8,152,829	5,165,094	7,327,624	5,478,193	7,405,611	5,245,083	7,847,797	5,400,406	7,918,953	3,673,897
High Service......	4,008,792	2,806,822	4,340,232	2,153,276	3,816,824	2,186,709	4,026,713	2,007,370	4,440,826	2,609,345	4,7 4,338	2,736,779	5,078,532	3,358,122
T'l Consumption..	10,501,347	7,885,383	12,733,963	7,038,828	11,969,653	7,351,803	11,354,337	7,485,563	11,846,437	7,854,428	12,562,135	8,137,185	12,997,485	7,032,019
Date...............	20		21		22		23		24		25		26	
Low Service........	6,401,477	5,487,198	8,094,277	5,531,934	9,477,953	5,583,589	8,690,654	6,064,550	8,851,391	5,619,911	8,849,278	5,730,318	8,265,542	5,469,486
High Service......	4,373,184	1,784,326	4,701,188	3,015,399	4,537,073	2,683,039	4,856,874	2,910,989	4,446,531	2,742,678	4,642,757	2,742,000	5,018,504	2,866,721
T'l Consumption..	10,774,661	7,271,524	12,795,465	8,547,333	14,015,026	8,266,628	13,547,528	8,975,539	13,297,922	8,362,589	13,492,035	8,472,318	13,284,046	8,336,207
Date...............	27		28		29		30							
Low Service........	6,249,249	4,776,145	9,226,323	6,721,673	7,832,255	5,517,365	7,199,385	5,247,706	....	....	....	....	....	....
High Service......	3,870,356	2,335,725	3,638,317	1,596,946	4,739,448	2,364,792	3,590,847	2,007,972	....	....	....	....	....	....
T'l Consumption...	10,119,605	7,111,870	12,864,640	8,318,619	12,571,703	7,882,157	10,790,232	7,255,678	....	....	....	....	....	....

CONSUMPTION STATEMENT.—OCTOBER, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p m. to 7 a.m.	7 a.m. to 7 p. m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.
Date...............	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's.	Gal's. 1	Gal's.	Gal's. 2	Gal's.	Gal's. 3	Gal's.
Low Service.......	....	....	....	....	....	....	....	....	6,513,390	4,868,422	6,611,298	4,743,602	7,269,903	4 057,892
High Service... ..	....	....	....	....	....	....	....	....	3,474,195	2,127,690	2,419,051	1,873,666	3,750,333	2,416,668
T'l Consumption...	....	....	....	....	....	....	....	....	9,987,585	6,996,112	9,030,349	6,617,268	11,020,236	6,474,060
Date...............	4		5		6		7		8		9		10	
Low Service......	6,596,777	3,823,599	8,175,056	5,295,503	7,187,142	3,552,687	6,686,911	3,987,646	6,524,858	4,230,024	6,596,244	4,276,025	6,513,857	3,938,191
High Service......	3,339,280	2,395,991	4,256,006	1,979,140	3,009,256	2,847,998	3,141,005	1,640,574	3,093,628	1,953,605	3,356,592	2,013,120	2,201,614	1,731,440
T'l Consumption...	9,936,057	6,219,590	12,431,062	7,274,652	10,196,398	6,400,685	9,827,916	5,628,220	9,618,486	6,183,629	9,952,836	6,289,145	9,715,471	5,669,631
Date...............	11		12		13		14		15		16		17	
Low Service........	5,335,113	3,964,567	6,484,123	4,071,984	6,606,946	3,624,699	5,992,123	4,218,247	6,258,277	3,916,052	6,471,586	4,576,944	6,148,278	4,846,966
High Service......	2,981,532	1,803,226	3,457,518	1,867,050	2,918,940	1,990,290	3,674,598	1,754,904	3,026,652	2,074,176	3,171,306	1,810,338	3,300,570	1,802,736
T'l Consumption...	8,316,645	5,767,793	9,941,641	5,939,034	9,525,886	5,614,989	9,666,721	5,973,151	9,284,929	5,990,228	9,642,892	6,387,282	9,448,848	5,649,702
Date...............	18		19		20		21		22		23		24	
Low Service.......	4,428,904	3,612,200	5,187,212	4,956,269	5,963,501	4,295,630	6,369,766	3,695,665	6,919,401	4,091,096	5,610,070	3,576,262	6,555,618	3,837,958
High Service......	2,806,338	1,849,302	3,330,054	1,837,836	3,242,304	1,861,728	3,273,172	2,020,834	2,175,246	1,897,740	4,058,868	1,785,132	2,946,678	1,869,172
T'l Consumption...	7,235,242	5,461,502	8,517,206	6,794,105	9,205,805	6,157,358	9,642,938	5,716,499	9,094,647	5,988,836	9,698,938	5,361,394	9,402,296	5,707,130
Date...............	25		26		27		28		29		30		31	
Low Service.......	6,563,165	4,073,031	7,767,316	5,932,785	7,989,082	6,438,298	8,304.266	5,362,774	7,140,702	5,754,696	6,902,413	3,017,138	6,780,988	3,564,175
High Service......	2,588,232	1,806,014	3,232,120	1,724,926	3,290,314	1,011,021	3,038,221	2,878,220	3,223,314	1,745,406	2,945,799	2,701,752	2,482,530	2,125,804
T'l Consumption...	9,151,397	5,879,045	10,999,436	7,657,711	11,279,396	7,449,319	11,342,487	8,240,994	10,364,016	7,500,102	9,848,212	5,718,890	9,263,518	5,689,979

174058

CONSUMPTION STATEMENT.—NOVEMBER, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.
Date…………	Gal's. 1	Gal's.	Gal's. 2	Gal's	Gal's. 3	Gal's.	Gal's. 4	Gal's.	Gal's.	Gal's	Gal's. 6	Gal's	Gal's. 7	Gal's.
Low Service…..	4,636,411	4,097,160	6,575,315	3,912,745	5,406,676	3,408,570	6,016,990	4,026,521	6,304,201	4,198,732	6,118,171	3,558,009	5,714,562	3,701,225
High Service….	2,498,430	1,959,750	3,365,415	1,771,305	3,292,833	1,749,745	3,271,979	1,797,397	3,268,875	1,635,469	2,127,485	1,869,223	3,139,928	1,839,240
T'l Consumption.	7,134,841	6,056,910	9,970,730	5,684,050	8,699,509	5,158,315	9,288,969	5,823,918	9,573,076	5,834,201	8,245,656	5,427,232	8,854,490	5,540,465
Date…………	8		9		10		11		12		13		14	
Low Service…..	5,215,776	2,569,788	5,768,901	3,925,423	5,524,634	3,934,422	5,692,094	3,993,120	6,189,146	4,070,944	5,543,427	3,689,408	5,171,912	3,505,491
High Service….	2,571,395	1,746,258	3,338,152	1,536,639	3,428,900	1,984,509	3,105,114	1,792,830	3,125,214	1,782,936	3,115,158	1,879,644	3,482,962	1,673,382
T'l Consumption.	7,787,171	4,316,046	9,107,053	5,462,062	8,953,534	5,918,931	8,797,208	5,785,950	9,314,360	5,853,880	8,658,585	5,569,052	8,654,874	5,178,873
Date…………	15		16		17		18		19		20		21	
Low Service…..	4,460,083	3,118,018	6,066,016	3,286,528	6,061,477	3,581,385	6,047,083	3,977,739	5,881,331	3,824,794	5,643,764	3,859,630	4,252,306	3,795,047
High Service….	2,479,186	1,695,255	3,189,461	1,870,056	2,896,290	1,894,669	3,140,588	1,978,693	2,842,803	2,065,752	3,086,729	1,809,019	3,989,429	1,859,167
T'l Consumption.	6,939,269	4,813,273	9,255,477	5,156,584	8,957,767	5,476,044	9,187,671	5,957,432	8,724,134	5,890,546	8,730,493	5,668,649	8,241,735	5,654,214
Date…………	22		23		24		25		26		27		28	
Low Service…..	4,460,644	3,270,568	5,735,880	2,295,647	5,824,365	3,731,321	5,484,802	2,663,528	6,022,755	2,819,121	5,970,712	3,117,286	5,179,781	3,563,217
High Service….	2,474,513	1,936,962	2,845,501	1,849,520	3,071,283	1,922,232	3,041,180	1,777,140	2,554,545	1,748,885	3,034,048	1,804,920	2,297,039	1,742,715
T'l Consumption.	6,935,157	5,207,530	8,581,381	5,145,167	8,895,648	5,653,553	8,525,982	4,440,668	8,577,300	4,568,006	9,004,760	4,922,206	8,176,820	5,305,932
Date…………	29		30											
Low Service…..	4,471,269	3,546,876	5,873,107	4,756,249	………	………	………	………	………	………	………	………	………	………
High Service….	2,670,948	1,982,014	3,394,474	1,883,856	………	………	………	………	………	………	………	………	………	………
T'l Consumption.	7,142,217	5,528,880	9,267,581	6,640,105	………	………	………	………	………	………	………	………	………	………

CONSUMPTION STATEMENT—DECEMBER, 1891.

	SUNDAY.		MONDAY.		TUESDAY.		WEDNESDAY.		THURSDAY.		FRIDAY.		SATURDAY.	
	7 a.m to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m	7 p.m. to 7 a m.	7 a.m. to 7 p m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.	7 a.m. to 7 p.m.	7 p.m. to 7 a.m.
Date..............	Gal's.	Gal's.	Gal's.	Gal's.	Gal's 1	Ga'ls.	Gal's. 2	Gal's	Gal's. 3	Gal's	Gal's 4	Gal's	Gal's. 5	Gal's.
Low Service.....	....	....	....	....	4,577,178	3,917,690	5,478,344	3,865,186	5,536,481	4,696,951	5,529,810	4,173,812	5,482,222	2,612,016
High Service.....	....	....	....	....	3,560,413	2,506,113	2,838,494	2,200,564	2,774,265	1,828,285	2,655,050	1,952,684	3,110,066	2,361,010
T'l Consumption	....	....	......	....	8,637,591	6,423,803	8,316,838	6,065,750	8,310,746	6,525,236	8,184,860	6,126,496	8,592,288	4,973,026
Date..............	6		7		8		9		10		11		12	
Low Service.....	4,356,672	3,657,476	5,681,804	3,645,332	5,141,280	3,949,166	5,453,420	3,806,676	5,129,905	3,771,038	5,346,118	4,089,033	4,948,581	4,009,064
High Service.....	2,623,333	1,694,993	2,920,509	1,829,806	3,317,013	1,961,982	3,268,936	1,840,347	2,96[illegible],141	1,879,170	2,934,550	1,802,255	3,115,539	1,814,817
T'l Consumption	6,980,005	5,352,469	8,602,313	5,475,138	8,458,293	5,911,148	8,722,356	5,647,023	8,096,046	5,650,208	8,280,668	5,891,288	8,064,120	5,823,881
Date..............	13		14		15		16		17		18		19	
Low Service	4,190,111	3,647,656	5,576,406	3,674,279	5,368,900	3,527,360	5,249,476	3,573,349	5,402,360	3,542,531	5,296,394	3,847,172	5,420,927	3,933,306
High Service....	2,511,503	1,751,755	3,072,695	1,699,723	3,134,177	2,024,250	3,002,304	1,926,594	3,244,681	2,431,741	3,473,312	2,204,514	3,282;616	2,064,775
T'l Consumption	6,701,614	5,399,411	8,649,101	5,374,002	8,503,077	5,551,610	8,251,780	5,500,143	8,647,041	5,974,272	8,769,706	6,051,686	8,703,543	5,998,081
Date..............	20		21		22		23		24		25		26	
Low Service	4,715,793	3,626,965	5,577,735	3,617,090	5,412,273	3,872,314	5,342,790	3,473,006	4,878,946	2,598,886	3,911,206	3,016,902	4,700,627	3,091,409
High Service....	2,226,937	2,025,348	3,120,244	1,932,868	3,088,538	1,965,862	2,746,898	1,891,968	2,942,272	1,781,467	2,535,593	1,768,500	2,558,160	1,864,531
T'l Consumption	6,942,730	5,652,253	8,697,979	5,549,958	8,500,811	5,838,176	8,089,688	5,364,974	7,821,218	4,380,353	6,446,799	4,785,402	7,258,787	4,955,940
Date..............	27		28		29		30		31					
Low Service.....	3,760,724	3,137,708	3,980,451	3,119,824	6,593,205	2,935,739	4,527,036	3,498,682	5,850,892	3,656,750	....	....	....	....
High Service....	2,406,437	2,141,549	3,136,560	1,726,521	2,264,873	1,840,937	3,812,732	1,978,236	3,130,121	1,931,087	....	....	....	....
T'l Consumption	6,167,161	5,279,257	7,117,011	4,846,345	8,858,078	4,776,676	8,339,768	5,476,918	8,981,013	5,587,837	....	....	....	....

LIST

OF

NEW HYDRANTS SET,

FROM

NOVEMBER 30. 1890, TO DECEMBER 31. 1891.

HYDRANT STATEMENT

FOR THE YEAR ENDING DECEMBER 31, 1891.

(As a continuation to the list of Hydrants in the reports of 1883 to 1891).

LOW SERVICE.

No.		Pressure Pounds.
150*f*	Northwest corner Chester avenue and Seabury street	50
150*g*	Northwest corner Chester avenue and Erie place	65
150*h*	Northwest corner Oraton street and Chester avenue	45
150*i*	Southwest corner Oraton street and Delavan avenue	47
150*j*	Oraton street, west side, south of Elwood avenue	51
150*k*	Southwest corner Riverside road and Delavan avenue	66
150*l*	Riverside road, W. S. about 300 feet north of Delavan avenue	66
498	Northwest corner Spruce street and Clinton avenue	40
750	Northwest corner Kossuth and St. Francis streets	43
795	Esther street, west side, south of Albert avenue	45
796	Joseph street, west side, south of Albert avenue	43
831	Northeast corner Clifford and Adams streets	43
832	Northwest corner Clifford and Van Buren streets	44
874	Miller street, north side, about 180 feet east of Avenue A	41
875	Northeast corner Wright street and Avenue B	40

HIGH SERVICE.

1150*g*	Northwest corner Milford avenue and Runyon street	85
1150*h*	Southwest corner Milford avenue and Bigelow street	90
1150*i*	Bergen street, middle of block, bet. Bigelow and Runyon streets,	60
1150*j*	Hillside avenue, west side, middle of block, between Madison avenue and Alpine street	59
1150*k*	Northwest corner Hillside avenue and Alpine street	58

No.		Pressure Pounds.
1150*l*	Northwest corner Peshine avenue and Bigelow street	60
1150*m*	Northeast corner Clinton and Prospect avenues	42
1150*n*	Northeast corner Clinton and Farley avenues	38
1150*o*	Northeast corner Clinton and Treacy avenues	32
1150*p*	Treacy avenue, west side, about 120 feet south of Madison ave.	19
1150*q*	Southwest corner Treacy and Avon avenues	24
1150*r*	Farley avenue, west side, about 120 feet south of south curb Madison avenue	25
1150*s*	Southwest corner Farley and Avon avenues	30
1150*t*	Southwest corner Chadwick and Madison avenues	45
1150*u*	Southwest corner Chadwick and Avon avenues	42
1150*v*	Southwest corner Milford avenue and Alpine street	83
1250*a*	Northwest corner Eighth avenue and Factory street	75
1300	Fourth street, west side, middle of block, between Orange street and Sussex avenue	50
1300*a*	Northwest corner Fourth street and Sussex avenue	46
1300*b*	Northwest corner South Seventh street and Central avenue	37
1345	South Seventh street, west side, middle of block, between Eleventh avenue and Bank street	40
1346	Northwest corner South Seventh and Bank streets	38
1450*c*	Northwest corner Fourth and Orange streets	53
1450*d*	North Ninth street, west side, middle of block, between Fifth and Fourth avenues	45
1450*e*	Southwest corner North Ninth street and Fourth avenue	45
1450*f*	Northeast corner Seventh avenue and North Twelfth street	45
1450*g*	Northeast corner Seventh avenue and North Thirteenth street,	45
1450*h*	Northeast corner Seventh avenue and North Fourteenth street	45
1450*i*	North Eleventh street, west side, north of Fifth avenue	50
1450*j*	First street, west side, north of Seventh avenue at the Morris canal	58
1450*k*	North Thirteenth street, west side, middle of block, between Seventh and Sixth avenues	47
1500*g*	Parker street, west side, south of Second avenue	43
1500*h*	Northeast corner Sixth avenue and Aqueduct street	50
1590	Littleton avenue, west side, north of Springfield avenue	41
1591	Northwest corner Kipp and Rose streets	45
1592	Northwest corner Fairmount and Sixteenth avenues	44
1593	Fairmount avenue, west side, middle of block, between Fifteenth and Sixteenth avenues	44
1631	Northeast corner Sixteenth avenue and South Twelfth street	35
1632	Southwest corner South Twelfth street and Fifteenth avenue	35
1633	Northeast corner Eighteenth avenue and South Thirteenth street,	31
1634	Northeast corner Eighteeeth avenue and South Fourteenth street,	36
1635	South Nineteenth street, west side, south of Fourteenth avenue,	35
1636	Northwest corner South Fourteenth street and Woodland avenue,	30

No.		Pressure Founds.
1637	Northwest corner South Fourteenth street and Avon avenue.....	29
1638	Southwest corner South Fifteenth street and Springfield avenue,	32
1639	Northwest corner South Fifteenth street and Woodland avenue,	34
1640	Northwest corner South Fifteenth street and Avon avenue......	27
1641	South Fifteenth street, west side, at the city line................	28
1729	Southwest corner Jelliff and Avon avenues.....................	60
1730	Belmont avenue, west side, middle of block, between Avon and Madison avenues.......	60
1770	Northwest corner Elwood avenue and Ridge street..............	43
1771	Northwest corner Elwood avenue and Aqueduct street...........	47
1772	Northwest corner DeGraw and Elwood avenues...........	54
1814	Southwest corner Sixth and Berkeley avenues...................	40
1815	North Sixth street, west side, north of Abington avenue........	41

VILLAGE OF BELLEVILLE.

22	Northeast corner Courtland street and Jeroleman avenue..........	66
23	Courtland street, west side, south of Jeroleman avenue............	67

HYDRANTS REMOVED.

737	St. Charles street, west side, north of Kossuth street, to the northwest corner St. Charles and Kossuth streets...............	43

HYDRANTS CHANGED FROM LOW TO HIGH SERVICE.

25	Northeast corner Sussex avenue and Colden street................	69
67	Northwest corner Sixth avenue and Cutler street.................	75
75	Northwest corner Sixth avenue and Garside street................	66

SUMMARY OF HYDRANTS.

Low Service..	803
High Service..	764
Belleville Village....................	23
Belleville Pumping Station..	3
Total..................	1,593

174059

ANNUAL REPORT

OF THE

Committee on the Department of Water

OF THE

BOARD OF

Street and Water Commissioners

OF THE

CITY OF NEWARK, N. J.,

FOR THE YEAR ENDING

DECEMBER 31st, 1892.

PER EXCHANGE, 5 JAN. 1902
JERSEY CITY PUBLIC [illegible]

174059

ANNUAL REPORT

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Committee on the Department of Water

OF THE

BOARD OF

Street and Water Commissioners

OF THE

CITY OF NEWARK, N. J.,

FOR THE YEAR ENDING

DECEMBER 31st, 1892.

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ANNUAL REPORT

OF THE

Committee on the Department of Water

OF THE

BOARD OF

Street and Water Commissioners

OF THE

CITY OF NEWARK,

For the Year ending December 31st, 1892.

OFFICERS AND MEMBERS.

JAMES SMITH, Jr.	President
E. LIVINGSTON PRICE,	Counsel
CHARLES MARSH,	General Superintendent of Works
ENOS RUNYON,	Clerk of the Board

FERDINAND A. HAHN,	*Term expires with 1894*
JAMES SMITH, Jr., HUGH C. HENDRY, M. D.,	*Term expires with 1895*
THOMAS HARLAN, REUBEN TRIER.	*Term expires with 1896*

Committee on the Department of Water,

THOMAS HARLAN, Chairman, HUGH C. HENDRY, M. D.,
REUBEN TRIER.

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ASTOR, LENOX AND
TILDEN FOUNDATIONS
1900

Superintendent's Report.

To the Board of Street and Water Commissioners of the City of Newark, N. J.:

GENTLEMEN :

This report, as the Superintendent's report of the workings of the Water Department for the year 1892, takes a somewhat different form from those of previous years, inasmuch as it does not begin with the stereotyped statements of quantity of water pumped during the year, pounds of coal consumed, etc., etc., because the past year, marks the most important event in the history of Newark's Water Supply. The New Water Supply, the need of which has been felt so long, and the question of procuring, which has been agitated for so many years, has at last become an accomplished fact.

On January 12, of the past year, at 10 A. M., the first water from the Pequannock water-shed was let into the reservoir through the twenty-one miles long, forty-eight inch conduit. The water ran for five and a quarter hours, and about 1,500,000 gallons were let into the reservoir. Since the above date water was let into the reservoir at intervals ; in

January	66,300,000	gallons.
February	105,400,000	"
March	170,300,000	"
April	253,200,000	"

Since April 26, four days before the date stipulated in the contract between the City of Newark and The East Jersey Water Company (May 1st), the supply of the city has been exclusively Pequannock water. Although the water has been shut off during the year several times in order to make necessary repairs to the conduit, it has on no occasion been for so long a time as to necessitate a return to the old Passaic supply.

On February 15, at 12.49 P. M., the first water was let into the High Service reservoir on South Orange avenue, through the five miles long, 36 inch conduit, which connects the 48 inch conduit with the reservoir. The supply for the regular High Service at this reservoir has, however, been interrupted on several occasions for so long a time as to necessitate pumping at the High Service Pumping Station (on one occasion two weeks, from June 15 to July 1), while the pumping for the special High Service has had to be continued through the entire year, awaiting the notification from the East Jersey Water Company to open the gates connecting that service with the 36 inch conduit.

It would seem appropriate in this report to briefly review the history of Newark's water supply, and to begin with, it is a fact perhaps not generally known that it is one of the oldest in the country. In the last year of the last century, a number of public spirited citizens "associated together" and obtained a charter from the Legislature, (and as stated in the preamble) "for the purpose of supplying themselves and their neighbors with water." The incorporators named in the charter are John N. Cumming, Nathaniel Camp, Jesse Baldwin, and Nathaniel Beach, who are also First Directors; in addition to which are named Stephen Hays, James Hedden, Jabez Parkhurst, David D. Crane, Joseph T. Baldwin, Luther Goble, Aaron Roff, John Burnet and William Halsey. The Act was passed on November 17, 1800, and it is a coincidence worthy of note, that within fifty-four days, one hundred years later, the works of the new water supply from the Pequannock valley will pass into the absolute possession of the City of Newark.

The principal supply of water came from springs and wells located in the old Eighth, Eleventh and Fifteenth wards, on both sides of the Morris Canal. Several of the wells on the west side of the canal can yet be seen, and when several years ago the Branch Brook pond was nearly emptied, a small water works, consisting of wells, pipes, gates, etc., was laid bare. There were in all seventy-three wells and springs, and the water was collected (partly through a 12 inch pipe under the canal) in a small covered reservoir about 150 feet east of the same, in the line of what is now Seventh avenue. From this reservoir the water was conducted to the old "Needle factory" on Branch Brook, back of what was formerly Fehleisen's brewery. Here the water was pumped from a well into a reservoir about forty feet long, thirty feet wide and fourteen feet deep. This reservoir was called "the reservoir in the quarry." Water power was at first used for pumping, but later steam was substituted. A separate pipe conducted the water from the wells located north of old Bond street, east of First street, and a well, where subsequently the old Lock street school house stood, to a very small reservoir (about 30 feet by 30 feet, and 12 feet deep), on the north side of Orange street, about 130 feet east of Boyden street. This pipe must have been laid before the Morris Canal was built, as it runs under the bed of the same for a distance of over eight hundred feet.

At the Washington factory, east of Factory street, and north of Eighth avenue, and about 100 feet from each, were a small number of springs, and the water was pumped into a tank in the factory. Water power was used up to the end of the sixties, when John Garside, who manufactured cutlery in the lower part of the factory, gave up business, and his engine was substituted for the old wheel, which, before lifting water for Newark's early water supply, is said to have been one of the paddles of the "Robert Fulton," the first steamboat run on the Hudson river in 1807. *

The Branch Brook furnished the water-power for both the needle and Washington factories, and also for the lower

---

* It would however seem more probable that the wheel in question was either the stern-wheel, or one of the paddles of two vessels built on the Passaic River at Belleville, considerably before Fulton's time, and propelled by steam for experimenting on the Passaic River.

mills belonging to the company, the Franklin and Clay street factories. There were three mill-ponds at the time (now all filled in and built upon), one above each of the three lower mills. Adjoining the collecting reservoir, near the canal, was a pond called the "upper pond," from which the water was taken for the needle and the other factories when run by water-power. In times of drought, this pond was replenished from the Morris Canal by opening the blow-off gate near Dickerson street, from where the water ran through the then existing small brook to the pond.

On the north side of Springfield and South Orange avenues, on what became later the Aschenbach property, there was another reservoir. It was one hundred and six feet long and thirty-eight feet wide, and collected water from springs in the locality. The distributing pipe ran through the Rankin property, and crossing High street ran under the buildings now standing on the east side of High street, and the south side of Market street, from where it continued down the latter street.

The earliest distributing pipes used were of wood, subsequently replaced by iron, and in some instances by cement pipes. The largest pipe was 10 inches, and the smallest even below one (1) inch.

Inasmuch as there are no records of the old Aqueduct Company at hand, it is impossible to tell how the works developed from the first beginning in 1800 to the condition described above at the time of their transfer to the city.

On the 26th of February, 1838, the Legislature passed a supplement to the City Charter (Newark was incorporated a city in 1836), empowering the city to raise money for a water supply, but the Aqueduct Company had a proviso inserted making it obligatory upon the Mayor and Common Council, before executing any work, to purchase the stock, works, powers and privileges of the Company. Whatever action was taken by the city authorities after the passing of this act, it must have been without result, because, on December 9th, 1845, the Mayor and Common Council of the City of Newark entered into a contract with the Aqueduct Company for the furnishing of a full and sufficient supply of water "for the extinguishment of fires and for washing, working, cleaning, and trying the fire engines, hose and other apparatus used, and to be used, for the extinguishment of fires only." In this contract the city agrees to lay iron pipes in a number of streets: a 10 inch pipe in Broad street, from Orange street to Market street, the smaller pipes in Broad street, from Market street to Chestnut, in Smith (now Park street), part of Mulberry street, Centre street, in Park place, in Washington street, from Broad to Market streets, and also in Market street from the Court House to Broad street (10-inch) The city also agrees to pay the cost of the 10 inch pipe already laid, extending from "the reservoir in the Quarry" through Quarry and Broad streets to Orange street. All the above mentioned pipes shall be the property of the city, but the Company shall have the privilege of tapping them for services to supply their customers—with the exception of the pipe in Broad street, from Orange to Court streets, and in Market street, from the Court House to Broad street, which shall only be used as feeders to supply their own parallel distributing pipes through connecting branches. The city further agrees to keep in good repair all hydrants and cisterns, and to provide against all unnecessary waste, and to see that the hydrants are closed after each conflagration.

Besides furnishing the water as above mentioned, the Aqueduct Company on their part give the city the right and privilege in the future to make connections for hydrants, cisterns, and other apparatus for the extinguishment of fires, with any of the above mentioned pipes, or any pipes belonging to the Company. The Company also agrees to maintain and keep in good repair all water pipes and reservoirs, and that they will at all times, except when repairing or rebuilding, keep 80,000 gallons of water in the same. Also, the authorized agents and officers of the city may, at reasonable hours, and upon application to the Superintendent of the Company, enter, view, and inspect the reservoirs, to search and observe the condition of the same, and the quantity and supply of water. In case the Mayor and Common Council should be of the opinion that the supply is not adequate, they may appoint "four judicious and disinterested freeholders, one from each ward, as Commissioners to inquire into the same," and the President and Directors of the Company may, if they see fit, appoint a like number in the same manner, and upon application, the Chancellor or any one of the Justices of the Supreme Court shall appoint some disinterested freeholder another Commissioner, and if a majority of the Commissioners shall be of the opinion that the supply is inadequate, and upon the failure of the Company to furnish an adequate supply, the same shall be debarred and prevented from using any of the pipes belonging to the city.

These are the main features of what is the first water contract the city ever entered into ; it is signed by William Wright, President, and Jesse Baldwin, Mayor. The Legislature by an Act approved February 24, 1846, validated this and a supplemental contract relating to the laying of certain lines of pipes.

At a meeting of the Common Council held on April 9, 1855, the following resolution was passed :

> "WHEREAS, Owing to the want of an adequate supply of water in every part of our city, for domestic, mechanical and other purposes, and the entire destitution of the outer sections of the city of such supply, and the evident incompetency of the present Aqueduct Company to furnish such supply ; therefore,
>
> *Resolved*, That a Special Committee be appointed to examine into the subject and report upon the best means of obtaining such supply of water as shall be entirely adequate to the wants of every portion of the city, and as will be sufficient for any emergency."

A Committee was appointed, of which Alderman Layton was Chairman, but it had not concluded its labors at the expiration of the term of the Council on Dec. 28, 1855. At the first meeting of the incoming Council the following resolution was passed :

"*Resolved*, That the report of the Special Committee of the last Council, on the subject of a supply of water for the city, which was presented and laid on the table, on the 28th day of December last, be taken from the table, and be referred to a Special Committee, together with the documents accompanying the same; and, also, so much of the message of his Honor, the Mayor, as refers to the same subject."

The new Committee consisted of Daniel Dodd, S. A Baldwin, D. W. Baldwin, E. C. Aber and Richmond Ward.

The report of the Committee was presented on Sept. 6th, 1856, and is very exhaustive, but of too great length to be here reproduced. The following is a brief *resume* of the same, which gives an idea of the state of the water supply question at that time. The report relates how the solution of the problem of procuring the full supply of water for all portions of the city, looking as well to its future growth as to its present wants, had received the attention of every Common Council since the incorporation of the city, but that all official acts and reports on the subject so far had been intended only to answer a temporary purpose, to remain only until the growth and finances of the city should warrant the adoption of a plan that would be "permanent in its character, and as expansive in its means of supply as the city itself."

As to the sources of supply from which the water could be obtained, the Committee considers that there exist fatal objections at the outset to all except two. On Second river are the valuable mill-sites, which make the river impracticable. The rights of the Society for the Establishment of Useful Manufactures are the obstacles to the Passaic river at Little Falls or Paterson, and the rights of the Morris Canal to Lake Hopatcong, in addition to the great distance of this Lake, as well as Budd's Lake, from the city.

The two remaining sources which the Committee think worthy of consideration are, first, the then existing supply furnished by the Aqueduct Company, and second, the Passaic river below Paterson. As to the former, the Committee had frequent consultations with the committee of the Company, and made careful examinations of their affairs, works rights, franchises, etc., their power to supply the present wants, and to what extent the capacity of the works could be increased. Proposals of sale to the city were also made by the Committee. Particular attention was given to the nature of the relations between the Company and the city, with regard to existing contracts of long standing ; and as the Company and its friends claimed that it could supply the city as fully and more economically than any other plan that could be devised, also to the reliability of the Company for the present and future supply.

The Committee engaged the services of Dr. Wm. Kitchell, then the State Geologist, who, with the consent of the Aqueduct Company, examined all their springs, wells, reservoirs and works, and measured the water flowing from the different sources (the springs and wells). In his report to the Committee the Doctor states that he has come to the conclusion that their yield may safely be estimated at 1,400 gallons per minute, or a little over 2,000,000 gallons in twenty-four hours, which quantity, however, might be increased to 3,000,000 gallons, by a better arrangement of the works, by opening new springs, and by deepening and increasing the number of wells.

This maximum supply of only 3,000,000 gallons per day, or 60 gallons per capita for 50,000 inhabitants (this being the population of the city at that time), the expense of extensions and repairs to the works, in addition to the purchase money for the same (the price fixed by the Company was $230,000), together with the impossibility of reaching the higher portions of the city, appeared to the Committee almost insurmountable obstacles.

The report then takes up the matter of existing contracts between the city and the Aqueduct Company, of which there were but two, the contract of Dec. 9, 1845, and the supplemental contract of the same year, which were all the documents defining the mutual relations and reliabilities of the parties, while the supplement to the City Charter passed on Feb. 28, 1838, which recognizes the power of the city to raise money for a water supply, but makes it obligatory upon the city to buy the work, etc, of the Company, cannot in any sense be considered in the nature of an agreement between contracting parties, as it imposes no restrictions which might not have been legally disregarded by the Legislature in their next Legislative act, and therefore the city could not be considered forever debarred from obtaining its own water-works without first coming to terms with the Aqueduct Company.

The only remaining source of supply, the Passaic river below Paterson, had been recommended by engineers, and the fact that Jersey City had erected its works upon the river, enabled the Committee to arrive at results which otherwise would have been problematical; and the committee further expressed itself as strongly impressed with the conviction that the further the inquiry into this source was pushed, the more strongly it would appear that the time had arrived for proceeding in the prosecution of this great work.

As to the probable cost of the work, the report states that an engineer of great skill and experience, and fully acquainted with the location and necessities of the city, had proposed to erect an engine house with the necessary engines, pumps, and two sets of machinery, and to furnish a supply within the city limits of 10,000,000 gallons in twenty-four hours, at an elevation of 225 feet, for the sum of $250,000 (exclusive of lands), to be paid only upon the completion and successful operation of the works.

Finally the Committee recommends the adoption of the following resolution :

Resolved, That the Special Committee on a Supply of Water be directed to continue their investigations, and to take the requisite steps for an early application to the next Legislature for the necessary power and authority to procure such a supply of water as we need, and that they prepare and report to this body the draft of a bill for that purpose.

September 5th, 1856.

The Aqueduct Company, however, did not give up the fight, because a supplement to the original Act of 1800 was passed by the Legislature, and approved February 17, 1857, authorizing the Newark Aqueduct Company to enter upon lands in search of water, and to make use of any other springs or sources of water as they may think necessary, to afford a further supply of water to the City of Newark, and to extend aqueducts in the vicinity of Newark. What action the Company took under this act cannot now be ascertained. Probably surveys, etc., were made, but no important additions to the works were made up to the time of the passing of the act creating the Newark Aqueduct Board. This act was approved March 20. 1860, and authorized the Mayor and Common Council to purchase the property of the Newark Aqueduct Company, including all their rights, franchises, lands and property, real and personal, for the sum of $150,000.

The first members of the Aqueduct Board were William S. Faitoute, Daniel Dodd, Thomas R. Williams, Edward Doughty, Jacob Van Arsdale, Henry G. Darcy and Mayor Moses Bigelow, *ex-officio*. The conveyance of the real estate consisted of eighteen tracts, including the Branch Brook, the Spring lots, the Mill properties along the "Mill Brook," several smaller tracts, and the reservoir lot at Springfield and South Orange avenues.

There were at the time of the transfer about 95,000 feet of pipe of all sizes from 10 inches down, connected with the works, of which the city had laid (under the previously mentioned contract) and owned, about 18,000 feet.

The Newark Aqueduct Board organized and held its first meeting in the office of the Newark Gas Light Company, on March 29, 1860. Mayor Moses Bigelow was elected President, and Jacob Van Arsdale, Secretary. Later the meetings were held in the Library building, and in July the Board rented the second floor of the Mechanics' Bank building on Broad street, where the office remained until December 24, 1878, when it was removed to Halsey street, its present quarters.

In May, 1860, Mr. N. N. Pollard, was appointed agent of the Board (and subsequently Superintendent), to look after the interests of the Board, as Mr. George T. Baldwin, who had been the Superintendent of the Company, had declined the position.

In June, Mr. George H. Bailey, of Jersey City, was appointed Engineer of the Board, and was directed to prepare plans, and report on increasing the supply from the wells, and later was instructed to prepare plans for a new water supply on an extensive scale. Mr. Bailey presented his report on January 31, 1861, and it was ordered printed.

There are but few copies of the report now in existence, and I will therefore briefly state some of the main features of the same.

The report considers the requirements for the city for thirty (30) years up to 1890, and the consumption in that year is estimated at 14,580,000 gallons daily for 243,000 inhabitants, or sixty (60) gallons per inhabitant *

Of the different sources of supply, the springs furnishing the water at the time are first considered and found inadequate, inasmuch as the yield (less than 1,000,000 gallons per day) could scarcely be increased, as they were more or less affected by summer droughts, some even failing entirely.

The Rahway river is also considered inadequate on account of the small drainage area.

The great expenditure, amounting to several million dollars, which would be incurred to obtain a supply from either Lake Hopatcong, Green Pond, the Rockaway River or Long Pond (Greenwood Lake), was deemed a sufficient reason to make further examination unnecessary

First and Second rivers, separate or combined, are next considered ; they were gauged, but the yield found insufficient for a permanent supply. Furthermore, the rights of

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* In Croes & Howell's report, made nearly twenty years later, the consumption in 1890 is estimated at 17,446,000 gallons for 269,000 inhabitants in an assumed Newark water district, including all the parts of Essex County east of the Orange mountain (65 gallons per inhabitant).

the different mill owners would have had to be purchased or condemned, separate pumping for each river would have been required, and the water of Second river was even then of an exceedingly turbid appearance.

The Morris Canal is next taken up, and the quality of the water (upon analysis) being found unobjectionable for domestic purposes, Mr. Bailey was authorized by the Board to communicate with the Morris Canal Company respecting a supply from the canal, and the cost thereof In his letter to the Canal Company Mr. Bailey states, that it is proposed to take the water from either the Bloomfield or Newark levels; in one case at an elevation of 170 feet, and in the other of 106 feet, above tide. The whole supply of the city is proposed to be taken from this source, and the quantity is to begin with 2,000,000 gallons per day, to be increased to 5,000,000 gallons in two years; to 10,000,000 gallons at the close of ten or fifteen years, and doubled again at the end of a corresponding period. Mr. Bailey further states that it is understood that the necessary quantity of water can be afforded by the canal. and in such case he requests the attention of the Company to the following inquiry:

"Upon what terms will the Canal Company agree to furnish the city with a supply of water amounting to seventy (70) gallons per day for each individual of its population, and continue the same for a period of not less than fifty years; the water to be taken from the canal at either of the before-mentioned places, or a portion from each? The supply to be guaranteed and equal in quality to that now in the canal. All work necessary for drawing the water from the canal and conducting it to the city, including a settling reservoir of large extent, to be constructed, by the Aqueduct Board."

In his reply, dated January 16, 1861. Mr. E. Marsh, President of the Company, states that upon investigation they have arrived at the conclusion that the sources in possession of the Company, and the improvements contemplated, will abundantly provide the largest quantity named

That it is proposed to obtain the supply principally from Greenwood Lake, and that the Company in addition owns Green Pond, which is not required at present, but can be made available at any time. The engineer of the Company estimates that there will have to be expended in order to provide and deliver in proper condition the amount of water about $100,000 the first year, and $50,000 per year for the succeeding four years, which sum shall be paid by the City of Newark. The charges for the water are to be $12,000 per annum for the first 2,000,000 gallons daily, and one cent for every additional thousand gallons. It is contemplated to deliver the water into two reservoirs in the city ; the main one at a level of 106 feet, and the other at about 220 feet, above tide, the water to be delivered into the latter to be not more than one-fifth of the total, and the city to pay for all the necessary fixtures and piping.

The Company subsequently modified its original proposition as follows: to deliver the water from Bloomfield on the payment of $100,000 the first year, and $50,000 the succeeding two years ; $10,000 per annum, for the first 2,000,000 gallons daily, and one-half cent for each additional 1,000 gallons. *

The last of the available sources considered is the Passaic river. The quality of the water according to analysis by Prof. Horsford, of Yale, and Dr. Chilton, of New York, was found equal to that of most rivers, excelling in purity many of good repute, and which, furthermore, could be improved by natural filtration or settling.

A favorable location for a filtering and settling basin was found in the low ground extending about one-half mile along the river above Belleville. Three lines for conducting the water to the city were surveyed and estimated. The first line contemplates a conduit from the filtering basin to a pumping station below Belleville, and pumping

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* This proposition of the Morris Canal Company is now of special interest in view, of the fact that the new supply of the City of Newark is virtually that of the Company, through the Lehigh Valley R. R. and the East Jersey Water Companies.

directly into the Low Service reservoir. The second, the location of the pumping station at the basin, and pumping into the receiving reservoir on the high ground west of Belleville, and from there by gravity to the Low Service reservoir. The third line coincides with the first in respect to the location of the pumping station, and contemplates a receiving reservoir on the high ground on Bloomfield avenue, near the city boundary.

The plan recommended in the report of supplying the city from the river, and the estimates of the cost of the work are in accordance with the first proposed line—it being the least costly. For the comparison of the proposition of the Morris Canal Company, the following is the estimate covering that part of the work necessary to deliver the water into the Low Service reservoir:

Filtering and settling reservoir and work at the river	$ 18,072.00
For 7,028 ft. Conduit	43 468.00
Engine House and Pump Well	17,146.70
Two Pumping Engines and Boilers	60,000.00
For 14.700 ft. Low Service Pump Main	134.300.00
Total	$272.986.70

A comparative statement of the annual expenditure of furnishing the water from the Passaic river, including maintenance and interest on the above amount, with future extensions up to twenty million gallons, and the Morris Canal is in favor of the former project. The following is the estimate of the cost of the work in the city:

Low Service Reservoir	$ 56,049.47
High Service Engine and House	26,000.00
High Service Pump Main	22.800.00
High Service Reservoir	18,371.00
City Distribution (Cast Iron Pipe)	304,679.00
Total	$427,899.47

The cost of maintenance of a supply of 5,000,000 gallons daily is estimated as follows:

Interest on cost of Works—$770,975.47 at 6%	$46,258.53
Cost of Raising 5 000.000 Gallons per day	16,982.00
Superintending, collecting, repairs &c	15.000.00
Total	$78,240.53

The number of buildings supplied with water in 1860 was 1,636, of which 1,371 were dwellings, and 565 for purposes other than domestic. The income from the works for the year was, for dwelling and manufacturing purposes, $15,338.46, and for street sprinkling, $1,160,53; total, $17,498.99. The whole number of buildings occupied as dwellings in the city was 10,212, and buildings occupied and used for other purposes, 1,554; total, 11,766. The income of the Board at the time of the 5,000,000 gallons consumption was estimated at $91,250.00, or, on the assumption that a proportion of one-sixth cf the city was receiving a supply, the income from the whole city, if the same scale of charges were adhered to, would be $99,030.76.

Further legislation was deemed necessary to enable the Board to proceed with the work, and on March 8, 1861, the Legislature passed the act requiring the Board "to devise a plan commensurate with the present and future wants of the city" for a supply of water by enlarging the works already erected, or by erecting new works, or both, and to report to the Common Council for their approval or rejection.

On July 9, of the same year, the Board adopted Plan 1, as designated in Mr. Bailey's report, and appointed a committee to present the same to the Common Council at their next meeting, and on October 1st the Board received a communication from the Common Council announcing their approval.

The matter of a new supply had advanced thus far when the breaking out of the civil war, with the consequent instability of all financial and commercial affairs, and the great advance in prices of labor and materials caused the construction of the new works to be deferred, and the Board proceeded with such extensions and improvements of the old works only as were imperatively necessary. Some of the wells were deepened and enlarged, in order, if possible, to increase their yield. No very considerable increase, however, was obtained in that way. In 1862 a new reservoir was built, by cleaning out the old pond adjoining the covered reservoir east of the canal, and raising and strengthening the banks. This reservoir was abandoned early in the '70's, when the present Low Service reservoir was built. In 1865 a second reservoir was built adjoining the first, which was known for years as the old Branch Brook reservoir, and was in service until July, 1888. The capacity of both reservoirs was about 12,000,000 gallons, and the elevation 87 feet above tide, and rendered available the whole supply of the springs, as well as such other sources as were then at hand (the Morris Canal). The old reservoirs on Orange street and South Orange avenue were abandoned as useless—the former reverting to its original owner, and the latter was sold to Mr. William M. Aschenbach.

Extensions of street mains were also made, from time to time, as the demands for water required, and in place of the original ten-inch main from the reservoir, a twenty-four inch main was laid to the corner of Quarry and Broad streets.

In April, 1865, the Morris Canal Company offered to supply the city with 300,000 gallons of water per week for the sum of $500 (about $128.00 per million gallons), and in October the Canal Company entered into contract with the city for a supply for five years from July 1, 1865, but whether at the above price is not stated in the minutes of the Board. In 1869 this contract was renewed for the current year, the Aqueduct Board to pay $1,500 for all the water needed in addition to the springs.

In April, 1866, the Board resolved to proceed with the erection of works to procure a supply of water from the Passaic river above Belleville, upon the general plan adopted by the Board, with such changes as might be deemed necessary, and during the following summer experiments and examinations were made on the low ground above Belleville.

In the spring of 1867, the property was purchased on which the river works (which have supplied the city until the past year) were erected, and on May 8th the contract for the building of the basins and river-wall was awarded to Messrs. Sandford & Backus, who soon after commenced operations. On September 12th the contract for building the engine house was awarded to D. W. Crane & Co., and on the same date the contract for the first pumping engine was entered into with H. R. Worthington & Co., of New York.

In June the property for the Receiving reservoir was purchased, and on October 28th the contract for building the same was awarded to Messrs. O'Connor, Brady & McGrath, who, however, did not commence operations until the following spring.

The 30 inch pump-main from the pumping station to the Receiving reservoir, and the 24 inch supply-main were laid, and the entire works were completed in the latter part of 1869, and in 1870 were in full operation.

Since 1870 the annual reports of the Aqueduct Board have been ordered printed, and they continue the history of the works from that time up to the present.

The Belleville Pumping Station.

The appended statement of the work of the pumping engine at Belleville shows the quantity of water pumped during the first four months of the year, in addition to that furnished by The East Jersey Water Company. The pumping of the remaining eight months is only such as was necessary to keep the pumps in good working order. Each of the four pumps is started about once every four weeks, but for no longer a time than to fill the pump main as far as the reservoir, when the pump is stopped and the main emptied by opening the blow-off and letting the water run back into the basin.

The pumps are in good condition, and have needed but little repairing; and all the boilers have been cleaned. The fires under three of them are kept constantly banked, so that the pumps can be started at short notice in case of an accident to the new water supply.

The High Service Pumping Station.

The pumps and boilers at the High Service Pumping Station are in good condition, and have needed very little repairing. The appended pumping statement shows the work done by the engines.

Pump Mains and Supply Mains Nos. 1 and 2.

None of the four mains have needed any repairs during the past year. Pump-main No. 1 is used as over-flow pipe from the gate-house of the new water supply at the Receiving reservoir, while No. 2 is kept full by partly opening a gate connecting with the reservoir, in order to supply several consumers along the line, and also the engineer's and firemen's dwellings at the pumping station.

The Receiving Reservoir, Belleville.

Under this heading nothing need be said except to reiterate what has been stated in all former reports, that the reservoir has kept up its good record, and remains in its usual good condition.

The Low Service Reservoir.

The leak on the west side of the reservoir mentioned in last year's report, has been repaired. The reservoir was emptied in the spring, and the Low Service was fed for the time through the pipe laid in 1890, connecting the supply main No. 2 with the distributing main No. 2. It was found impossible to locate the leak on the inside of the reservoir. An excavation was therefore made into the bank on the outside, following up the leak to near the centre of the bank, where a concrete wall was built cutting off the leak. The remainder of the excavation was puddled.

The reservoir has been filled to a depth of 16 to 17 feet since refilling, but the leak has not reappeared.

The High Service Reservoir.

Nothing has been done to the lower outlet pipe at this reservoir, which was found clogged, as stated in last year's report. It is a matter that should be attended to as soon as possible.

Distribution.

There have been laid in in the city during the past year 26,435 lineal feet, or 5 $\frac{35}{5280}$ miles of distributing pipes. Of these, 250 feet were 20 inch; 245 feet 12 inch, and 25,940 feet 6 inch pipe, and in Belleville 1,739 feet 6 inch, and 977 feet 4 inch pipe. The total length of pipe connected with the works is 197 $\frac{4187}{5280}$ miles.

In several streets that have been paved with asphalt pavement during the year, the old smaller pipes (vertically cast) have been taken up and relaid with 6 inch pipe, in all 6,221 lineal feet.

The number of hydrants set during the year was 56, of which 19 on the Low Service, 34 on the High Service, and 3 in the village of Belleville. The total number of hydrants connected with the work on December 31, 1892, was 1,649, of which 822 on the Low Service, 798 on the High Service, 26 in Belleville village, and 3 at the Belleville pumping station.

The following streets have been changed from the Belleville level to the High Service: Sheffield street, from Sussex avenue to the north side of Nassau street; Boyden street, from Sussex avenue to south of Eighth avenue; Summit street, from Sussex avenue to the south side of James street; James street, from the east side of Boyden street to the west side of Sheffield street; Orange street, from the east side of Boyden street to the west side of Sheffield street, and Nassau street, from the east side of Boyden street to the dead-end west of Sheffield street.

There have been no serious breaks on the distributing system during the year.

Consumption.

The number of new taps made during the year was 1,448 (294 less than the previous year), of which number 608 were on the Low Service, and 840 on the High Service. The total number of taps at the end of the year was 26,455, of which 11,071 on the High Service and 15,384 on the Low Service.

It is not possible to present the usual consumption statistics for the past year. When the East Jersey Water Company shall have completed and permanently established their system for measuring the water furnished for both Low and High Services, these statistics will be resumed.

The new rule enforced by the Board during the year, that all the water used for running motors shall be metered, caused a great deal of dissatisfaction during the past summer, but the rule had become imperatively necessary on account of the enormous waste of water, which would have brought the consumption during the past summer months up to 27,500,000 gallons per day, which is the limit of our supply up to the year 1900. Several consumers had meters set, but soon had to cease using their motors on account of the great expense of from $1.00 to $4.50 per day (the rate in previous years was $25.00 to $35.00 per season). The meter measurements were found correct by actual measurements of the volume of water passing. Inquiries were made at over one hundred water works in the United States and Canada regarding the use of motors, and it was found that on 79 works all water for motors had to be metered, on 12 works no motors are permitted at all, and on the remainder the motors are assessed—in some cases as high as from $100 to $150 per year.

Real Estate.

There have been no real estate sales during the year.

Storage Reservoir.

The Board has purchased 80$\frac{64}{100}$ acres of land on the Irvington road, in South Orange, for the purpose of building a large storage reservoir. The elevation of this reservoir will be about 276 feet above tide in Newark bay. Preliminary surveys are now in progress.

The New Water Supply.

The following reports of the Engineers, Messrs. A. Fteley and Chas. E. A. Jacobsen, were presented to the Board on February 13th and July 28th, 1892, respectively:

To the Board of Street and Water Commissioners, Newark, N. J.

GENTLEMEN:—

In accordance with the ~~resolution~~ motion adopted by your Board on November 18, 1891:

"That the Consulting Engineer, Mr. Fteley, and Engineer Jacobsen be requested to take up the contract between The East Jersey Water Company and the City of Newark, *seriatim*, and to report to this Board in writing what is still necessary for The East Jersey Water Company to do to complete and carry out the contract."

We beg to submit the following statement:

Our report necessarily contains a number of subjects in regard to which we have already communicated officially or otherwise with you at different times, but we have endeavored to present here in a condensed and connected form the result of our examination of the work performed by The East Jersey Water Company.

The work agreed to be done by the Company is described in various parts of the contract, but it is mainly outlined in the first clause of Section 4, as follows:

"Sec. 4. The party of the second part further covenants and agrees to and with the party of the third part to erect, construct and build in a thorough and workmanlike manner all such dams, reservoirs and works as may be necessary to hold, impound, maintain and deliver the water so to be delivered to the party of the third part, making all necessary erections and constructions therefor, so that the water of the quality aforesaid and of the quantity aforesaid, may at all times be delivered through the conduit or conduits so to be constructed as aforesaid, and that so much water shall be held, impounded, maintained, and made deliverable at and above the point or points of intake, as they may be hereafter fixed and located, as shall be necessary to furnish through the said conduit or conduits to the said city at the points of delivery therein during each and every day of the year, for all time, the maximum quantity of water above mentioned, and that all the said reservoirs shall be constructed at points in the valleys of the Pequannock or of the Wynockie, or of the Ramapo, at which the water to be retained in them and to be delivered therefrom has not been made unwholesome, or made impure by any matter or substance coming or arising from preventable sources of pollution; and that such dams and reservoirs shall be constructed and built in accordance with the specifications and requirements of this contract."

Inasmuch, however, as the conduit is now being tested and prepared for service by The East Jersey Water Company, we have thought proper to defer reporting on the same until such time as the results of the tests will enable us to gain a more complete knowledge of its condition.

Of the three valleys or water-sheds mentioned in the contract, The East Jersey Water Company has selected that of the Pequannock river.

This river has its sources in the highest parts of the New Jersey highlands; its water-shed, especially above the point of intake, is very sparsely inhabited, and by far the greatest percentage of the area is covered by forests ; it is substantially free from objectionable drainage, and the water to be delivered therefrom, in this respect, well complies in point of purity with the requirements of the contract as to the quality of the water to be supplied.

The water-shed above the point where the water is taken into the conduit, covers about sixty-seven (67) square miles.

Three dams have been built : One at Oak Ridge, on the

Pequannock river, forming a reservoir containing 2,500,000,000 gallons, which receives the drainage of about twenty-seven (27) square miles; one at Clinton, on the tributary of the Pequannock, called Moseman's Brook, forming a reservoir containing 3,500,000,000 gallons, which receives the drainage of about ten (10) square miles. The third dam below the outlet of Echo Lake, called the Macopin Intake, is built on the Pequannock, at the lowest point of the utilized portion of the water-shed.

The reservoirs formed by the first two dams store a very large proportion of the water furnished by the corresponding drainage grounds. The reservoir at the Macopin Intake has sufficient proportions for the purpose of holding water at the head of the pipe conduit, but it has no practical value as a storage reservoir; consequently, the lower part of the water-shed, about thirty (30) square miles, from the two upper dams to the Macopin Intake, can be utilized only to the extent of its natural daily drainage, and a very large proportion of the freshets will be wasted over the spillway of the dam.

Water-sheds have their local peculiarities, and a strictly accurate estimate of their capabilities could be made only by a series of continuous gauging of the streams which receive their drainage, but in each case, in the absence of such gaugings, comparison can be made with other water-sheds not far distant and presenting somewhat similar conditions, with results which can give a fair idea of the capacity of the drainage area under consideration.

The drainage area above Oak Ridge is capable of furnishing more water than can be stored in the reservoir, but the Clinton reservoir has a small water-shed as compared with its capacity.

In view of good practice, and in accordance with the terms of the contract, our judgment of the capabilities of the system adopted must be based on its probable yield in such dry periods as have been experienced within our knowledge in similar circumstances, and we are of the opinion that the portion of the water-shed of the Pequannock included in the present system of work, with the reservoir now built, although ample for the supply of 27,500,000 gallons now required for Newark, could not in a dry period furnish a maximum daily supply for each and every day in the year, of 50,000,000 gallons, and from our present knowledge of the Pequannock water-shed, we further believe that the capacity of the present system in a time of drought could not exceed 35,000,000 gallons for each and every day in the year.

Closely connected with the subject just mentioned is the question of the diversion of water referred to in the contract. We notice that several branches have been provided along the pipe-line ; we are also informed that water is to provided for the running of mills located on the Pequannock below the Macopin Intake. If connections are to be made with the branches mentioned, or if water is to be furnished for the purposes aforesaid, it is plain that in a time of drought during the period that the Company is empowered by the contract to divert water for its own purposes, the margin between the capacity of the present system and the volume of water due the City of Newark would be dangerously small.

The two storage dams are built on a common plan. They are formed of a heavy earth embankment, containing in its centre a wall made of concrete. An ample spillway and a gate-chamber for the distribution of the water are also built in connection with each.

The foundation of the centre wall has been, with two exceptions, extended to the solid rock, reaching at places considerable depth. The centre wall is of sufficient thickness, and is made of concrete of good quality. The earth, on each side of the wall, has been laid in thin layers, well compacted, and the embankments are protected by stone rip-rap.

The dams proper, are, on the whole, substantially built, and the execution of the work has apparently been of a satisfactory character.

No gate-houses have been built over the gate-chambers at Oak Ridge and Clinton dams. In general practice such structures are always built, especially in locations as much exposed to the weather as these are. They are, moreover, required by the terms of the contract, and should be erected. The contract provides that "All parts of the work exposed to the eye should be of neat and workmanlike appearance without any unnecessary ornamentation, and shall be of a thorough, proper, workmanlike construction, sound, solid and sufficient." Parts of the work, which are exposed to the eye, do not comply with these requirements of the contract ; a considerable proportion of the pointing, especially at the spillway of Clinton dam, has yielded to the action of the frost, and the top surface of the masonry of the gate-chambers and of their surrounding walls, which have been finished with a layer of cement mortar, already shows disintegration. These surfaces should be protected by copings.

The crest of the spillway at Oak Ridge is formed of concrete only, and should be protected with a capping of stone.

Each gate-chamber is provided with four pipes built in the masonry, with as many gates in the dry chambers with flap-valves protected by an iron rack ; although the valves are operated by appliances placed in the dry chamber, they are out of reach, and, notwithstanding the fact that the number of pipes secure to a large extent the continuous efficiency of the service, these flap-valves, owing to the heavy pressure to which they may be subjected, are liable to become uncontrolable, and could not be properly reached except at low water in the reservoirs. This is a matter that should be remedied.

The drainage of the gate-chamber at Oak Ridge is faulty, and must be corrected.

Since the reservoirs have begun to fill up, and the dams have been subjected to water pressure. small flows of water have appeared at different points along outside of the embankments, also through the rock near the gate-chambers, and through the masonry, wall of the Oak Ridge gate-chamber. While there are at present no indications that these leaks are of a serious nature, they will, however, be kept under constant and careful observation, the result of which will enable us to determine their extent and character.

We have also observed that the surface of the outer slopes at Oak Ridge have become somewhat disturbed. These irregularities should be remedied, and we think that sodding should be used, especially on the outer berm, with proper drainage arrangements to protect the parts affected by the action of the water.

The reservoir sites, including the specified space around the flow line or high water contour, has been well cleared and grubbed of all stumps, underbrush and shrubbery, and the several areas which formed the wooded parts of the sites have been carefully cleared and raked, and all the stumps and other refuse were stacked and burned in accordance with the specifications. In regard to the smaller vegetation, but little effort has been made to remove it.

The lower areas were flooded, leaving all the rank vegetation in it natural state. On the slopes and higher areas the grass was burned in spots, where it was sufficiently dry to permit of it, leaving the stalks of the weeds standing.

Some refuse and objectionable rubbish around the sites of the old dwellings and barns has not been removed in accordance with the requirements of the contract.

Your Board is aware of these facts, and also of the failure of The East Jersey Water Company to strictly comply with the requirements of the contract regarding the "clearing," notwithstanding the several communications of your Board calling attention to the matter. It is obvious that the work cannot now be done without emptying the reservoirs.

The appearance of a part of the grounds near the dams, especially where extensive excavations have taken place, is not neat and workmanlike, and no attempt has been made to form regular slopes and to protect the same. This matter should be attended to.

The clause of the contract requiring the treatment of shallow flowage has been entirely ignored. Within the terms of the specifications, a large extent of the natural slopes can be left in their present condition, but at a number of places, especially on large areas of swamp extending along the streams running directly into the reservoirs and on extensive shoals and high grounds, the surface of which is close to high water mark, excavations should take place, with proper slopes in order to comply with the requirements of the contract.

The necessary excavating can be done in summer time when the level of the water in the reservoir is low enough to permit of it.

We shall refer, in the report on the conduit, to the dam and gate-house at the Intake.

In submitting this report we beg to call your attention to the fact that inasmuch as parts of the work herein referred to are not completed as specified in the contract, and that further testing may possibly develop deficiencies which at present are not apparent, we are not able to present this as a final opinion.

In conclusion, we desire to state that we have no means of ascertaining the land and water rights acquired by The East Jersey Water Company, and that we have assumed that they are such as to comply with the agreement.

Respectfully submitted,
(Signed), A. FTELEY,
Consulting Engineer.
CHAS. E. A. JACOBSEN,
Civil Engineer.
Dated, February 13th, 1892.

NEW YORK, July 22, 1892.

To JAMES SMITH, JR., *President Street and Water Commissioners;* COL. E. L. PRICE, *Counsel for Street and Water Commissioners;* W. B. GUILD, JR., *City Counsel;* JOSEPH COULT, *Counsel.*

GENTLEMEN:—

In answer to your request, we have to report that, in the present condition of the work the City of

Newark should be amply secured for the complete performance of the contract, in the sum of $2,300,000, exclusive of water rights in regard to which we have not sufficient data to form a reliable opinion.

In placing the amount of security at the above figure, we desire to state that we remain of the opinion, expressed in our report of February 13th, 1892, that the system of supply provided by The East Jersey Water Company is not sufficient and that the present work is not fully completed, and inasmuch as the pipe line has not been tested, and that the special high service has not been connected, we think that the city at the present time should be fully protected against all possible deficiencies of the work.

After the system of pipes is tested and found satisfactory. the amount of security could be safely reduced to the sum of $2,000,000 provided in the contract.

In this connection, it may not be out of place to state that the decision of your Engineers as to the sufficiency of the work at the time that the full payment is expected to be made, must be based on continuous observations of the capacity of the system, we would consequently recommend that records as to the rain-fall, the flow of the streams, and the flowing capacity of the pipes, be kept separately under your direction.

Yours respectfully,

(Signed), A. FTELEY,

Consulting Engineer.

CHAS. E. A. JACOBSEN,

Civil Engineer.

On the first day of August, an agreement was reached between the city authorities and The East Jersey Water Company, by which the latter received $3,500,000 in bonds, while $2,500,000 (including the $2,000,000, which, according to the contract, were to be held in escrow until 1900), were to be retained as security for the proper fulfillment of the contract for the new water supply. The $2,000,000 in excess of the amount stated in the Engineer's report were added as security for water rights, which at that time had not been purchased or condemed, and for which proceedings are now in progress. Two documents were signed by both parties, one being a subsequent contract covering the $2,000,000 referred to, and the other an agreement and bond relating to the remaining $500,000, of which the following is a copy:

KNOW ALL MEN BY THESE PRESENTS, that THE EAST JERSEY WATER COMPANY, a corporation organized under the laws of the State of New Jersey, is held and firmly bound unto the Mayor and Common Council of the City of Newark, in the sum of Five Hundred Thousand Dollars, lawful money of the United States of America, to be paid to the said Mayor and Common Council of the City of Newark, their certain attorney, successor or assigns, to which payment well and truly to be made, the said The East Jersey Water Company binds itself, and its successors, firmly by these presents. Sealed with the seal of The said East Jersey Water Company, and dated the first day August, eighteen hundred and ninety-two.

WHEREAS, The East Jersey Water Company, by a deed of conveyance, bearing date the second day of May, eighteen hundred and ninety-two, has conveyed to the Mayor and Common Council of the City of Newark, the dams, reservoir sites, conduits, and all the works of every nature and description, built and constructed by The East Jersey Water Company, especially for the purpose of furnishing a supply of water for the City of Newark, with certain lands, water and water rights in said deed of conveyance, more fully set forth, with full covenants of ownership, warranty, and against encumbrances.

AND WHEREAS, The City of Newark has paid The East Jersey Water Company on account of the said conveyance, and in part execution on its part of a contract or agreement entered into to it with the said The East Jersey Water Company for the construction of the said water works, and the purchase of said lands, water and water rights, four million dollars, by delivering to it the bonds of the said city in that amount, bearing date the second day of May, eighteen hundred and ninety-two.

AND WHEREAS, by a certain other agreement, called an "escow" agreement, made between the said The East Jersey Water Company and the Mayor and Common Council of the City of Newark, bearing even date herewith, provision is made for the payment of the second or deferred payment of two million dollars, provided for in said contract, which payment is to be made upon the terms and conditions prescribed therein.

AND WHEREAS, claim has been made on behalf of the Mayor and Common Council of the City of Newark that said works in certain respects do not meet the requirements of the contract made by said city with the said The East Jersey Water Company, and that certain things are necessary to perfect the title of the city to said lands, water and water rights so conveyed, and that among others, certain claims for damages remain unsettled.

AND WHEREAS, the said The East Jersey Water Company as security for the performance of the conditions contained in this bond, has deposited with Trustee five hundred thousand dollars ($500,000) in bonds of the City of Newark, which bonds are to be held by said Trustee as collateral security for the faithful performance of the terms and conditions of this bond.

NOW, THEREFORE, the condition of said obligation is such that if the said The East Jersey Water Company, its successors or assigns, shall and will perfect and complete the title of the said company and of its grantee, the said City of Newark, of, in and to the lands, water and water rights conveyed, or intended to be conveyed by the deed of conveyence made by the said The East Jersey Water Company to the said City of Newark, bearing even date herewith, and required by the contract, in pursuance of which the said conveyance is made with all their appurtenances, then, a sum equal to two-fifths of the total sum hereby secured shall be deemed to be paid and satisfied. And it is understood and agreed that when and so often as the said The

East Jersey Water Company, its successors or assigns shall for the purpose of perfecting such title, pay out and expend any portion of said sum in sums aggregating not less than five thousand dollars ($5,000), and shall satisfy the Mayor and The Board of Street and Water Commissioners of the City of Newark of such expenditure by producing the vouchers therefor, then bonds equal to the amount so expended and deposited as collateral to this obligation, shall thereupon be released and delivered up to the said company, and from time to time as such payments are made until the total amount so released shall aggregate the sum of the two-fifths of the sum so secured. The balance of said amount so deposited, and not released under the provision just recited, shall be released, and this bond finally discharged and deemed to be fully paid when title is perfected as aforesaid, and the pipe line or conduit constructed by said Company in the execution of the said contract shall have been fully tested as to construction and capacity, and found to be sufficient in strength and construction to meet the requirements of said contract under which it was built.

It is understood and agreed between the parties hereto that The East Jersey Water Company, its successors and assigns shall, while the bonds remain on deposit as collateral to this agreement, be allowed to collect the interest which may accrue thereon.

When title to said lands and rights have been completed and perfected, all claims for damages adjusted and paid, and the pipe line or conduit tested and found sufficient, then this obligation is to become void. and all bonds deposited as security for the performance of its conditions, not before surrendered and delivered shall then be surrendered and delivered by the said Trustee to the said The East Jersey Water Company, its successors or assigns.

Signed, sealed and delivered
in the presence of
E. L. PRICE,
J. J. McDAVITT.

THE EAST JERSEY WATER
COMPANY by
HENRY S. DRINKER,
Vice President
D. G. BAIRD,
Secretary.

The words "Fidelity Title and Deposit Company of the City of Newark," 24–25th lines and company in 27th line P. 2, being stricken, and the attest word "trust" in 29th line P. 2, changed to "Trustee" before signing. Note—"The Mayor and" on 3rd page first interlined.

In pursuance of a resolution this day passed by The Board of Street and Water Commissioners of the City of Newark, we hereby nominate and designate Fidelity Title and Deposit Company of Newark, N. J., as Trustee under the within paper, and fix its compensation at five thousand dollars, one-half of which sum is to be paid by the City of Newark, and one-half by The East Jersey Water Company.

Newark, N. J., Aug. 1892.

JOSEPH E. HAYNES,
Mayor.
JAMES SMITH, JR.,
Pres't Board Street & Water Commissioners.

The East Jersey Water Company, by
HENRY S. DRINKER,
Vice President

Respectfully submitted,
CHARLES MARSH,
General Superintendent of Works.

Clerk's Report.

BOARD OF STREET AND WATER COMMISSIONERS,
OF THE CITY OF NEWARK,
DEPARTMENT OF WATER

To the Honorable the Mayor and Common Council of the City of Newark :

GENTLEMEN :—In accordance with Section 20 of the law creating the Board of Street and Water Commissionners of the City of Newark, which requires me to make a report of the receipts and expenditures at the close of each fiscal year, I herewith submit the following as my report of the Department of Water for the year ending December 31st, 1892.

Cash balance December 31st, 1891, - -	$ 95,263 80
Receipts from all sources - - - - -	606,798 33
	$702,062 13
Less disbursements on all accounts, -	516,281 18
Balance, cash on hand and in banks, -	$185,780 95

ENOS RUNYON,
Clerk of the Board.

FINANCIAL STATEMENTS

BOARD OF STREET AND WATER COMMISSIONERS
OF THE CITY OF NEWARK,
DEPARTMENT OF WATER,
December 31st, 1892.

We, the undersigned, hereby certify that at the close of business this day, we made a personal examination of the cash, cash vouchers and securities of the Department of Water of this Board, and found them to correspond with the accounts called for by the books.

THOMAS HARLAN,
REUBEN TRIER,
F. A. HAHN,
Commissioners.

TRIAL BALANCE,

DECEMBER 31st, 1892.

Cash	$185,780 95	
Coupon Bonds		$27,100 00
Registered Bonds		8,220 00
Coupons Payable		35 00
National State Bank	35 00	
Real Estate, No. 1	26,964 15	
do " 2	3,696 15	
do " 3	2,545 48	
do " 4	10 50	
do " 5	750 00	
do " 6	13,177 00	
do " 7	500 00	
do " 10	2,360 00	
do " 11	10,456 36	
do " 12	12,134 90	
do " 13	9,092 65	
do " 15	55 42	
do " 16	6,000 00	
do " 17	12,500 00	
do " 18	1 00	
do " 19	500 00	
do " 20	100 00	
do " 21	500 00	
do " 22	3,290 04	
do " 23	500 00	
do " 24	4,880 00	
do " 25	4,300 00	
do " 26	2,660 00	
do " 27	625 00	
do " 28	3,550 00	
do " 29	4,200 00	
do " 30	9,196 00	
do " 31	3,800 85	
do " 32	9,380 00	
do " 33	6,738 00	
do " 34	9,000 00	
do " 36	1,201 00	
do " 37	1 00	
do " 38	1,400 00	
do " 39	4,250 00	
do " 44	15,375 00	
do " 46	3,713 02	
	$375,219 47	$3.532,035 00

Amount brought forward	$375,219 47	$3,532,035 00
Real Estate, No. 53	21,477 07	
do " 54	9.393 89	
do " 55	4.696 95	
do " 56	11,883 64	
do " 57	1,693 92	
do " 58	5.101 69	
do " 59	532 50	
do " 60	11,113 86	
do " 61	450 00	
do " 62	339 00	
do " 63	389 55	
Appropriation Extension of Street Mains		20,000 00
Street Mains, General	1,380,159 46	
General Supplies		393 39
Street Mains, Stock and Material	3,273 30	
Street Mains of 1892	21,049 40	
Belleville Pump House	56,309 39	
Belleville Boiler House Extension	2,387 76	
Belleville Pumping Engine, No. 1	55,909 73	
do do " 2	55,591 95	
do do " 3	78,918 29	
do do " 4	42,607 54	
New Boilers, Belleville	15,638 31	
New Chimney, Belleville	10,057 24	
Belleville Engineers' and Firemen's Dwellings	22,696 52	
River Wall, Dock and Baisins	266,112 99	
Receiving Reservoir, Belleville	133,645 05	
Keeper's House, Receiving Reservoir	3.192 60	
Driven Wells, Belleville	10,568 76	
Caisson Well, Belleville	2,453 80	
Pump Main, No. 1	92.552 57	
do " 2	47.353 54	
Supply Main, No. 1	152,998 38	
do " 2	81.643 96	
Section "A" Supply Main, No. 2	49,998 90	
High Service Engine House	27.847 44	
High Service Engine House, Extension	5.417 70	
High Service Pumping Engine, No. 1	21,407 40	
do do " 2	21,630 22	
do do " 3	19.874 71	
High Service Reserve Pumps	12,609 26	
New Boilers, Clifton Ave	6,349 82	
High Service Reservoir, South Orange Ave.	94.585 27	
	$3.237.132 90	$3,552,428 39

Amount brought forward	$3,237,132 90	$3,552,428 39
Low Service Reservoir, Seventh Avenue	304,039 20	
Branch Brook Reservoir, Seventh Avenue	54,294 15	
New Supply Survey	8,555 83	
Twelfth Ward Feeder	7,151 67	
Extra High Service	33,704 66	
High Service & Belleville Machinery, Fixtures, &c	3,141 60	
Stable, Stock and Fixtures	5,424 00	
Office Furniture, Fixtures &c	3,552 25	
Telephone Lines and Properties	1,200 00	
Hydrant Account	488 51	
Water Meter Account	21,105 55	
Bond and Mortgage	4,670 00	
Distributing Main, No. 2	63,612 00	
High Service Fuel Account	12,280 41	
do Engine Stores	1,342 97	
do Engineers' and Firemen's Wages	9,750 08	
Belleville Fuel Account	14,959 72	
do Engine Stores	1,116 96	
do Engineers' and Firemens' Wages	18,120 47	
Expense Account	13,739 75	
Salaries	15,574 96	
Inspection	11,796 00	
Engineering	4,636 26	
Interest—Coupons	228,400 00	
" Registered	150,105 00	
Insurance	332 00	
terest—General Account	133 04	
Maintenance & Repairs, Telephone Lines, &c	3 65	
Maintenance—General Account	5,983 10	
do Reservoirs and Grounds	5,495 96	
do Pure Water	2,035 00	
New Water Supply	9,822 77	
Repairs, Street Mains	8,116 40	
do Hydrants	424 63	
do Real Estate, No 1	2,788 42	
do Real Estate, Tenements & General	93 37	
do Engineers' and Firemens' Dwellings	128 98	
do Keeper's House, Belleville	5 20	
do Drinking Fountains	6 95	
do Water Meters	311 86	
	$4,165,606 23	$3,552,428 39

Amount brought forward	$4,165,606 23	$3,552,428 39
Repairs, Low Service Reservoir	2,132 84	
do Belleville Pump House	61 85	
do High Service Pump House	32 88	
do Belleville Pumps, Boilers & General	772 18	
do HighServicePumps, Boilers& General	664 12	
do Tools	714 94	
do Supply Main, No. 1	56 89	
do do " 2	41	
do Services	5 00	
Setting Meters	125 92	
Service Account		4.732 53
Plumbing Supplies	47 66	
Surplus and Deficiency Account		165.626 29
Loss and Gain		5,665 20
Water Rents. Income		505,594 80
Penalties. Fines, &c		2.291 70
Rents, Real Estate		683 00
Plumbers' Drafts		210 00
Collection Account. Advanced Water Rents	32,136 90	
do Services	3,525 63	
do Fractional	776 28	
do Miscellaneous	20,908 53	
Sundry Personal Account	9.653 65	
	$4,237,221 91	$4,237,221 91

STATEMENT A.

CONSTRUCTION ACCOUNT.

Belleville:		
Pump House	$ 56,309	39
Engineers' and Firemen's Dwellings	22,696	52
River Wall, Dock and Baisins	266,112	99
Receiving Reservoir	133,645	05
Keeper's House	3,192	60
Driven Wells	10,598	76
Caisson Well	2,453	80
New Boilers	15,638	31
New Chimney	10,057	24
Boiler House Extension	2,387	76
Pumping Engine, No. 1	55,909	73
do " 2	55,591	95
do " 3	78,918	29
do " 4	42,607	54
Newark:		
High Service Engine House	27,847	44
do do Extension	5,417	70
New Boilers, Clifton Ave	6,349	82
High Service Pumping Engine, No. 1	21,407	40
do do " 2	21,630	22
do do " 3	19,874	81
High Service Reserve Pumps	12,609	26
High Service Reservoir	94,585	27
Low Service Reservoir	304,039	20
Branch Brook Reservoir	54,294	15
Mains:		
Street Mains, General	1,380,159	46
Pump Main, No. 1	92,552	57
do " 2	47,353	54
Supply Main, No. 1	152,998	38
do " 2	81,643	96
Section "A," Supply Main, No. 2	49,998	90
Twelfth Ward Feeder	7,151	67
Extra High Service	33,704	66
Distributing Main, No. 2	63,612	00
Street Mains of 1892	21,049	40
	$3,254,369	74

STATEMENT D.

MAINTENANCE AND REPAIRS.

Maintenance,	Telephone Lines	$ 3	65
do	General	5,983	10
do	Reservoirs and Grounds	5.495	96
do	Pure Water	2,035	00
do	New Water Supply	9,822	77
Repairs,	Street Mains	8,146	40
do	Hydrants	424	63
do	Real Estate, No. 1	2,788	42
do	Real Estate, Tenements and General	93	37
do	Engineers' and Firemen's Dwellings	128	98
do	Keeper's House, Belleville	5	20
do	Water Meters	311	86
do	Drinking Fountains	6	95
do	Low Service Reservoir	2,132	84
do	Belleville Pump House	61	85
do	High Service Pump House	32	88
do	High Service Pumps, Boilers and General	664	12
do	Tools	714	94
do	Supply Main, No. 1	56	89
do	Supply Main, No. 2		41
do	Services	5	00
do	Belleville Pumps, Boilers and General	772	18
do	Setting Meters	125	92
do	Plumbing Supplies	47	66
		$39.860	98

ASSETS AND LIABILITIES.

	ASSETS.	LIABILITIES.
Construction Account	$3,254,369 74	
General Stock and Property	321,373 01	
Anticipated Assets	67,000 99	
Coupon Trust Fund	35 00	
Cash	185,780 75	
Coupon Bond Account		$2.710,000 00
Registered Bond Account		822,000 00
Coupons Payable		35 00
Plumbers' Drafts		210 00
Loss and Gain.		296,314 69
	$3,828,559 69	$3 828,559 69

STATEMENT.

FUND FOR THE CONSTRUCTION OF A STORAGE RESERVOIR.

CASH.

	DR.	CR.
Balance, December 31, 1891	$67,893 12	
From Interest on Deposits	12,075 00	
From Interest on Investments	955 95	
Sale of Bond No. 76	20,052 60	
Disbursements for the year		$96,669 07
Balance in Banks, December 31, 1892		4,307 60
	$100,976 67	$100,976 67

TRIAL BALANCE.

Storage Reservoir Fund Account		$202,307 60
Bond Account	$198,000 00	
Cash	4,307 60	
	$202,307 60	$202,307 60

SECURITIES.

Registered Newark City Water Bond, No 9	$50,000 00
" " " " " No. 10	6,000 00
" " " " " No. 28	50,000 00
" " " " " No. 86	15,000 00
" " " " " No. 87	12,000 00
" " " " " No. 88	15,000 00
" " " " " No. 75	40,000 00
Newark City Improvement Bonds, Nos. 271 to 280, inclusive.	10,000 00
	$198,000 00

DETAILED RECEIPTS AND EXPENDITURES FROM JANUARY 1, 1892. TO JANUARY 1, 1893.

RECEIPTS

Balance on hand Jan. 1st, 1892..		$95,263 80	
Advance Water Rent Collection.	$360,806 59		
Fractional Water Rent Collection	6,343 01		
Miscellaneous Water Rent Collection....................	117,760 70		
Hose Water Rent Collection....	5,405 00		
Motor Water Rent Collection...	2,935 48		
Service Collection, Services to Curb..........................	21,201 06		
Sales on Service Account.......	55 50		
Rents of Real Estate...........	683 00		
Penalties and Fines............	2,291 70		
Sundry Personal Accounts . ..	23,797 61		
East Jersey Water Co., Use of Pump Main No. 2............	5,000 00		
Mortgages Payment of Interest.	42 30		
Sale of Old Iron..............	463 78		
Sale of Oil Barrels............	12 60		
Proceeds of Temporary Loan...	40,000 00		
City of Newark, Appropriation Account of Street Water Mains	20,000 00		
		$606,798 33	
			$702,062 13

EXPENDITURES—CONSTRUCTION.

Labor, laying street mains, 1892.	$6,759 78		
Carting Pipe.................	30 00	$6,789 78	
STREET MAIN, STOCK & MATERIAL.			
Hardware.....................	89 41		
Iron Pipe	14,015 92		
Pig Lead.....................	2,601 00		
Castings....	2,347 53		
Oil..........................	15 36		
Wood.........................	47 25		
Lumber.......................	243 27		
Gates	2,190 00		
Car Service..................	9 00		
Expense....	2 50	21,561 24	
			$28,351 02

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED

Amount brought forward.......			$28,35
GENERAL SUPPLIES.			
Coke........................ ..	22 20		
Hardware......................	17 00		
Oil...........................	1 00		
Lumber....	71 95		
Wedges.........	13 48		
GENERAL MAINTENANCE.		125 63	
Oil...........................	6 75		
Weighing Pipe................	1 20		
Freight.......	17 59		
Labor........................	4,765 55		
MAINTENANCE OF RESERVOIRS AND GROUNDS.		4,791 09	
Hardware.............	106 67		
Coal..........................	24 35		
Oils, etc..............	61 16		
Plumbing........	36 79		
Lumber.......................	46 60		
Painting Sign.	3 50		
Mason Supplies................	27 25		
Machine Work................	31 55		
Expense..................... .	3 75		
Labor..................	5.154 34		
MAINTENANCE PURE WATER.		5,494 95	
Printing.........	472 65		
Professional Legal Expenses....	623 95		
Expense of Inspectors....... .	103 19		
Livery....	14 00		
Expense......................	4 80		
Labor..........	816 41		
REPAIRS OF REAL ESTATE, TENEMENT AND GENERAL.		2,035 00	
Plumbing.....................	12 25		
Drain Pipe....................	6 69		
Labor...................... .	74 45		
REPAIRS OF KEEPER'S HOUSE, BELLEVILLE.		93 37	
Plumbing......................	5 20	5 20	12 54
Amount forward...............			$40,89

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward.......			$40,897 27
REPAIRS, REAL ESTATE, NO. 1.			
Carpenter Work, Office.......	$205 87		
Painting and Papering..	975 79		
Mason Work.......	333 09		
Propping Building...........	95 00		
Iron Beams.................	87 46		
Relaying Tile................	4 75		
Plumbing....................	449 14		
Lumber	58 66		
Carting.....................	13 00		
Mason Supplies..............	3 30		
Hardware..........	12 83		
Glass, Putty, etc	9 15		
Window Screens.........	63 65		
Blacksmith....	145 06		
Labor.......................	301 67	2,788 42	
REPAIRS, STREET MAINS.			
Candles.....................	3 40		
Livery....	7 00		
Plumbing......	304 30		
Oil....	2 80		
Hardware........	5 51		
Wood............	8 50		
Cab Hire....................	3 50		
Expense........	24 25		
Labor.	3,428 51	3,787 77	
REPAIRS, TOOLS.			
Hardware	83 63		
Blacksmith	228 20		
One. No. 2 Single Suction Pump and Fittings...	44 10		
Two Wells' Lights	200 00		
Plumbing...........	24 23		
Rubber Boots................	50 00		
Two Pavement Axes...........	6 50		
Two Pounders	6 00		
Furnace and Grate........ ...	30 00		
Set Plumber's Tools...........	8 86		
Machine Work................	11 17		
Labor........	28 75	721 44	
			7,297 63
Amount forward			$48,194 90

Amount brought forward			$48,194 90
REPAIRS OF ENGINEERS' AND FIREMEN'S DWELLINGS.			
Plumbing	34 95		
		34 95	
REPAIRS HIGH SERVICE PUMP HOUSE.			
Plumbing	1 75		
Oil	4 50		
Labor	26 63		
		32 88	
REPAIR, BELLEVILLE PUMP HOUSE			
Oil	5 80		
Lumber	1 23		
Labor	54 82		
		61 85	
REPAIRS, LOW SERVICE RESERVOIR			
Mason Work	487 96		
Mason Supplies	208 30		
Inspector	90 00		
Lumber	38 71		
Repaving	150 00		
Expense	25		
Labor	1,157 62		
		2,132 84	
REPAIRS, BELLEVILLE PUMPS, BOILERS AND GENERAL.			
Mason Work	618 77		
Machine Work	36 63		
Boiler Repairs	31 39		
Mason Supplies	83 89		
Plumbing	1 50		
		772 18	
REPAIRS, HYDRANTS.			
Machine Work	86 78		
Lumber	15 76		
Fixtures	22 20		
Hardware	8 22		
Oil	17 87		
Expense	1 65		
Labor	558 41	710 89	
			3,745 59
Amount forward			$51,940 49

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward.......			$51,940 49
REPAIRS, HIGH SERVICE PUMPS, BOILERS AND GENERAL.			
Mason Work.............. ...	95 93		
Mason Supplies...............	19 00		
Boiler Repairs.	126 00		
Plumbing........	3 60		
Machine Work...............	382 49		
Lumber.....................	11 78		
Expressage...................	15 00		
Labor...	10 32		
		664 12	
REPAIRS, METERS.			
Hardware..............	2 45		
Plumbing....................	68		
Repairing Meters..............	769 66		
Expense.....................	54 60		
Labor......................	6 06		
		833 45	
REPAIRS, DRINKING FOUNTAINS.			
Plumbing	125 12		
Labor......................	27 57		
		152 69	
MAINTENANCE, TELEPHONE LINES AND GENERAL.			
Moving Telephones..........	3 65		
		3 65	
HIGH SERVICE FUEL ACCOUNT AND WAGES.			
Coal...............	11,678 66		
Wood	14 25		
Monthly and Weekly Wages....	9,750 08		
		21,442 99	
HIGH SERVICE ENGINE STORES.			
Hardware....................	198 43		
Oil....	668 24		
Gas..........................	340 34		
Machine Work...............	23		
Adjusting Scale...............	27 50		
Wood	4 75		
Ice........................	23 00	1,262 49	24,359 39
Amount forward...............			$76,299 88

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward.......			$76.299 88
SUPPLY MAIN, NO. 2.			
Hardware....	41		
Lumber	6 14		
		6 55	
NEW WATER SUPPLY.			
Contract Gate House at Belleville	1,418 17		
Professional Services....... ...	3,110 11		
Purchase of Land.............	75 00		
Livery......................	5 00		
Maps........................	72 50		
Hardware	94		
Analysis....................	269 80		
Expense.....................	800 00		
Fidelity Title & Deposit Co......	1,250 00		
Labor....................	2,821 25		
		9.822 77	
WATER METER ACCOUNT.			
Meters	12.228 42		
Expressage.............. ...	37 50		
Hardware..................	40		
Expense....................	83 66		
Labor......................	3 18		
		12 353 16	
BELLEVILLE FUEL ACCOUNT AND WAGES.			
Coal........................	8.531 80		
Stable Supplies....	93 90		
Horse Shoeing...........	13 00		
Expense....................	55 18		
Labor......................	17.958 39		
		26.652 27	
BELLEVILLE ENGINE STORES.			
Hardware....................	163 22		
Gasoline....................	231 97		
Oils, &c........	391 79		
Boiler Compound	90 90		
Repairs, Scales............ ..	26 00		
" Gas Machine.........	2 62		
Expense..........	7 78	914 28	
			49.749 03
Amount forward......			$126.048 91

DETAILED RECEIPTS AND EXPENDITURES—Continued.

Amount brought forward			$126,048 91
HYDRANT ACCOUNT.			
Hydrants	$3,774 00		
Labor	7 51	3,781 51	
PLUMBING SUPPLIES.			
Oil	5 38		
Supplies	44 22		
Expense	25	49 85	
SETTING METERS.			
Hardware	21 66		
Plumbing	4 08		
Labor	100 18	125 92	
ENGINEERING.			
Hardware	9 45		
Livery	25 00		
Machine Work	1 74		
Expense	65 71		
Supplies	202 85		
Labor, Monthly and Weekly Wages	4,331 51	4,636 26	
INTEREST, FUNDED DEBT.			
Amount of Coupon Interest Due 1892	228,400 00		
Amuont of Registered Interest Due 1892	50,105 00	278,505 00	
SALARIES.			
Office Salaries	15 574 96	15,574 96	
INSPECTION.			
Wages, Monthly and Weekly Wages	11,796 00	11,796 00	
MISCELLANEOUS ACCOUNTS			
Time Loan Paid	40,000 00		
Interest, Time Loan	175 34		
Storage Reservoir Account	87 12		
Insurance	225 00		
Loss and Gain Water Rent Refunded	20 66	40,508 12	354,977 62
Amount forward			$481,026 53

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward			$481,026 53
EXPENSES.			
Signs	8 50		
Rubber Stamps	13 50		
Document Boxes	6 84		
One Buggy	100 00		
Repairs, Yale Lock	4 80		
Copies of Laws	30 25		
Badges and Seals	23 60		
Treatment of Horses	15 00		
Desks, Table, Cabinet, etc	1,126 75		
Awnings	70 00		
Directories	8 50		
Type Writers' Supplies	26 70		
Repairs, Safe Door	8 85		
Framing Certificates	17 50		
Machine Work	5 50		
Legislative Bills	20 00		
Stenographer	15 90		
Legal Expense	344 65		
Fire and Water Subscription	8 00		
Mason Work	15 14		
Ice	26 00		
Candles, Soap, etc	10 25		
Repairs, Furniture	6 00		
Hardware	62 95		
Coal	146 80		
Stationery and Printing	2,326 12		
Gas	152 46		
Oil	13 95		
Livery	177 00		
Telegrams and Telephone Mes.	102 55		
Repairs, Vehicles	234 50		
Horse Shoeing	144 75		
Stable Supplies	1,207 52		
Repairs, Harness	153 10		
Advertising	963 80		
Expense	1,206 85		
Labor	4,928 47		
SERVICES.		13,733 05	
Plumbers' Drafts	$1,335 20		
Hardware	117 89		
Barber Asphalt Paving Co.	11 20		
Lead Pipe	4,209 85		
Corporation and Curb Stops	2 551 35		
Stand Pipes	1,758 25		
Machine Work	274 84		
Plumbing	25 03		
Use of Tapping Machine	96 00		
Contract, A. P. Smith	600 00		
Expense	11 28		
Labor	10,530 71	21,521 60	35,254 65
Total Expenditures			$516,281 18
Balance on hand January 1st, 1893			185,780 95
			$702 062 13

STATEMENT OF STREET MAINS LAID DURING THE YEAR ENDING DECEMBER 31ST, 1892.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
Apr. 1892	*South 18th Street, from 13th Ave. to City Line.*	994		
	84 6-inch pipe		$377 16	
	4 6 " Galvin stops		58 00	
	4 Stop boxes, complete		20 00	
	2 6x6 double branches		18 09	
	2 6x4 single branches		14 84	
	2 4-inch pipe		5 56	
	5 6-inch plugs		6 38	
	1100 pounds lead		55 00	
	Yarn and wood		5 00	
	Labor and cartage		266 09	
				$826 12
Apr. 1892	*Vanderpool Street, from Frelinghuysen to Sherman Aves.*	503		
	43 6-inch pipe		193 07	
	2 6-inch Galvin stops		28 00	
	2 Stop boxes, complete		10 00	
	3 repaired boxes		2 70	
	500 pounds lead		25 00	
	Yarn and wood		3 00	
	Labor and Carting		136 03	
				397 80
Apr. 1892	*Waydell Street, from Ferry Street to Passaic Avenue.*	613		
	52 6-inch pipe		233 48	
	1 6x6 pat. sleeve and stop		27 40	
	1 Stop box, complete		5 00	
	1 6x4 single branch		7 21	
	1 6-inch bevel hub		3 78	
	1 4-inch pipe		2 78	
	1 6-inch plug		1 05	
	640 pounds lead		32 00	
	Yarn and wood		3 00	
	Labor and Carting		124 87	
				440 57
Apr. 1892	*Morris Avenue, from New to Condit Streets.*	275		
	23 6-inch pipe		103 27	
	1 6-inch Galvin stop		14 50	
	1 Stop box, complete		5 00	
	2 6-inch bevel hubs		7 70	
	280 pounds lead		14 00	
	Yarn and wood		2 00	
	Labor and carting		79 87	
				226 34
	Amount forward			$1,890 83

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward...			$1,890 83
Apr. 1892	*Eighteenth Avenue, from Fairview Avenue to Hunterdon Street.*	295		
	25 6-inch pipe..................		112 25	
	1 6x6 double branch..........		8 55	
	1 6-inch sleeve...............		2 98	
	2 6-inch plugs........		2 10	
	230 pounds lead..................		11 50	
	Yarn and coke...........		2 00	
	Labor and Carting..............		96 96	236 34
May 1892	*Bergen Street, from Avon Avenue to Waverly Avenue.*	319		
	27 6-inch pipe............. ...		121 23	
	1 6x4 single branch...........		7 35	
	1 4-inch pipe		2 78	
	1 6-inch plug.................		1 09	
	350 pounds lead..............		17 50	
	Yarn and wood..................		3 00	
	Labor and carting...............		87 08	240 03
May 1892	*Aqueduct Street, from Elwood Ave. to north of Grafton Avenue.*	1,698		
	144 6-inch pipe.............		646 56	
	5 6-inch Galvin stops.........		72 50	
	6 Stop boxes, complete.......		30 00	
	2 6x6 double branches........		16 97	
	3 6x4 single branches.........		22 08	
	6 4-inch pipe.................		25 02	
	5 6-inch plug........, ...		6 30	
	1850 pounds lead................		92 50	
	Yarn and wood..................		5 00	
	Labor and carting..............		409 32	1,326 2
June 1892	*Elizabeth Avenue, Peddie Street and Sherman Avenue Mains, Elizabeth Avenue from dead end, to Peddie Street, in Peddie Street, to Sherman Avenue, in Sherman Avenue to City Line.*	1,070		
	90 6-inch pipe...		404 10	
	3 6x6 double branches........		25 41	
	1 6 to 4 reducer..............		4 06	
	5 6-inch Galvin stops...		72 50	
	1 4-inch pipe.................		2 78	
	3 Stop boxes, complete........		15 00	
	4 6-inch plugs................		4 20	
	1 6x4 single branch...........		7 56	
	1000 pounds lead................		50 00	
	Yarn and wood..................		5 00	
	Labor and carting.......		237 45	828 0
	Amount forward............			$4,521 5

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward....			$4,521 51
June 1892	*Parkhurst Street from Tichenor Avenue, east 274 feet.*	274		
	23 6 inch pipe..................		103 27	
	1 6x4 single branch		2 45	
	1 4-inch pipe.................		2 78	
	1 6 to 4 reducer..............		3 36	
	1 6-inch sleeve...............		2 90	
	1 6-inch plug.................		1 05	
	295 pounds lead...............		14 75	
	Yarn and wood.....		2 00	
	Labor and carting........... ..		66 84	
				199 40
June 1892	*Fifth Street from Bloomfield Ave. to 200 feet south of Second Avenue.*	1,025		
	87 6-inch pipe.....		390 63	
	3 6-inch Galvin stops.......		43 50	
	3 Stop boxes, complete......		15 00	
	2 4-inch pipe		5 56	
	2 6x4 single branches..... ..		13 68	
	1 6x6 double branch		8 54	
	3 6-inch plugs...............		3 15	
	1150 pounds lead..............		57 50	
	Yarn and coke................		3 00	
	Labor and carting..............		207 25	
				747 81
June 1892	*Miller Street, from dead end, west of Avenue "A" about 225 feet*	225		
	19 6 inch pipe................		85 31	
	1 6x4 single branch........ .		7 10	
	1 4-inch pipe.............. ..		2 78	
	1 4-inch plug.................		1 00	
	200 pounds lead...............		10 00	
	Yarn and coke.................		2 00	
	Labor and carting..............		68 50	
				176 69
June 1892	*Tichenor Street, from Hermon to Dawson Street.*	435		
	37 6-inch pipe................		166 13	
	1 6-inch Galvin stop.........		14 50	
	1 Stop box, complete........		5 00	
	1 4-inch pipe................		2 78	
	1 6 to 4 single branch........		7 32	
	395 pounds lead..............		19 75	
	Yarn and coke................		3 00	
	Labor and carting..............		94 46	
				312 94
	Amount forward............			$5,958 35

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward....			$5,958 35
July 1892	*Fifth Avenue from Lake to Aqueduct Street.*	263		
	22 6-inch pipe..................		$98 78	
	1 6 inch Galvin stop..........		14 50	
	1 Stop box, complete.........		5 00	
	1 4-inch pipe..................		5 56	
	1 6x4 single branch...........		7 35	
	1 6x6 double branch..........		5 87	
	2 6x6 plugs..................		2 48	
	1 6x6 cap....................		88	
	350 pounds lead................		17 50	
	Yarn and coke..................		2 00	
	Labor and carting...............		65 01	
				224 93
July 1892	*Gouverneur Street, from Ogden to Passaic Street.*	252		
	21 6-inch pipe..................		94 29	
	2 6-inch Galvin stops		29 00	
	2 Stop boxes, complete.......		10 00	
	1 4-inch pipe..................		2 78	
	1 6x4 single branch..........		7 18	
	1 6x6 double branch..........		8 57	
	1 6-inch sleeve...............		2 76	
	1 6-inch plug.................		1 37	
	300 pounds lead................		15 00	
	Yarn and coke..................		2 00	
	Labor and carting		55 88	
				228 83
July 1892	*Bleecker Street, from Colden to Lock Street.*	561		
	43 6-inch pipe....		193 07	
	49 feet 6-inch hub..............		18 13	
	2 6-inch Galvin stops.........		29 00	
	2 Stop boxes, complete.......		10 00	
	1 4-inch pipe........		2 78	
	1 6x4 single branch...........		7 32	
	2 6 to 4 reducers....		7 59	
	650 pounds lead.................		32 50	
	Yarn and coke............... ..		2 00	
	Labor and carting.......		173 15	
				475 54
	Amount forward......... ...			$6,887 65

STATEMENT OF STREET MAINS LAID—Continued.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward....			$6,887 65
July 1892	*Nineteenth Street, from Springfield Avenue, south to City Line.*	1,102		
	93 6-inch pipe..................		417 57	
	3 6-inch Galvin stops..........		43 50	
	3 Stop boxes, complete........		15 00	
	2 4-inch pipe..................		5 56	
	2 6x4 single branches.......		14 35	
	1 6x6 double branch..........		8 61	
	1 6x6 angle branch..........		9 94	
	1 6x4 double branch..........		8 68	
	1 6-inch bevel hub...........		3 57	
	1 6-inch sleeve..............		3 04	
	1250 pounds lead..............		62 50	
	Yarn and coke...		5 00	
	Labor and carting........... ..		296 07	
				893 39
Aug. 1892	*Frelinghuysen Avenue, from Alpine to Clifton Streets.*	1,047		
	88 6-inch pipe................		395 12	
	4 6-inch Galvin stops..... ..		58 00	
	4 Stop boxes, complete.......		20 00	
	2 4-inch pipe.................		5 56	
	2 6x4 single branches........		14 56	
	4 6x6 double branches.......		33 53	
	1230 pounds lead..............		61 50	
	Yarn and coke................		5 00	
	Labor and carting.............		197 93	
				791 20
Aug. 1892	*South Sixteenth Street, from South Orange Avenue, to a point about 415 feet south.*	415		
	35 6-inch pipe................		157 15	
	1 6x6 single branch........ ..		4 21	
	1 6x4 single branch..........		4 21	
	1 6-inch Galvin stop		14 50	
	1 Stop box, complete........		5 00	
	1 6-inch sleeve..............		2 80	
	1 6-inch plug................		1 05	
	1 4-inch pipe................		2 78	
	375 pounds lead.......		18 75	
	Yarn and coke		3 00	
	Labor and carting.............		108 83	
				322 28
	Amount forward...........			$8,894 52

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward.....			$8,894 52
Sep. 1892	*Second Street, from Central Ave., to Dickerson Street.*	377		
	32 6-inch pipe		$143 68	
	1 6-inch Galvin stop.........		14 50	
	Stop box, complete....... ..		5 00	
	1 Repaired box..............		90	
	1 6x4 single branch...........		8 12	
	1 4-inch pipe.................		2 78	
	400 pounds lead.........		20 00	
	Yarn and coke..................		3 00	
	Labor and carting..............		115 18	
				313 16
Sep. 1892	*North 7th Street, from 4th Avenue, north about 319 feet.*	319		
	27 6-inch pipe........		121 23	
	1 6 inch Galvin stop..........		14 50	
	1 Stop box, complete.........		5 00	
	1 4-inch pipe.........		2 78	
	1 6x4 single branch		7 46	
	375 pounds lead................		18 75	
	Yarn and coke......		3 00	
	Labor and carting...............		69 92	
				242 64
Sep. 1892	*Second Avenue, from Fifth to Sixth Streets.*	214		
	18 6-inch pipe...................		80 82	
	1 6-inch Galvin stop..........		14 50	
	1 Stop box, complete.........		5 00	
	1 4-inch pipe.................		2 78	
	1 6x4 single branch..		7 35	
	195 pounds lead................		9 75	
	Yarn and coke............... ..		3 00	
	Labor and carting...............		61 69	
				184 89
Sep. 1892	*Murray Street, from Austin Street to Tichenor Avenue.*	375		
	31 6-inch pipe...................		139 19	
	3 6-inch Galvin stops.........		43 50	
	3 Stop boxes, complete.........		15 00	
	2 6x6 double branches........		17 53	
	2 6 to 4 reducers.......... ..		7 91	
	1 6-inch plug..................		1 08	
	350 pounds lead....		17 50	
	Yarn and coke..................		3 00	
	Labor and carting...............		86 63	
				331 34
	Amount forward............			$9,966 55

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward....			$9,966 55
Sept. 1892	*Fifth Avenue, from Parker to*			
	Aqueduct Street.	257		
	22 6-inch pipe....		98 78	
	1 6-inch Galvin stop....		14 50	
	1 Stop box, complete....		5 00	
	200 pounds lead....		10 00	
	Yarn and coke....		3 00	
	Labor and carting....		89 63	
Sept 1892	*South Tenth Street, from between*			220 91
	Ninth and Central Avenue to			
	Central Avenue.	388		
	33 6-inch pipe....		148 17	
	1 6x4 single branch....		7 35	
	1 4-inch pipe....		2 78	
	1 6-inch plug....		1 08	
	375 pounds lead....		18 75	
	Yarn and coke....		3 00	
	Labor and carting....		97 07	
Sept. 1892	*Montclair Avenue, from Degraw*			278 20
	Avenue to First Street.	260		
	22 6-inch pipe....		98 78	
	1 6-inch Galvin stop....		14 50	
	1 Stop box, complete....		5 00	
	1 4-inch pipe....		2 78	
	2 6x4 single branches....		14 66	
	300 pounds lead....		15 00	
	Yarn and coke....		3 00	
	Labor and carting....		77 66	
Sept. 1892	*First Street, from Montclair Avenue*			231 38
	south 180 feet and north 205			
	feet.	385		
	32 6-inch pipe....		143 68	
	2 6-inch Galvin stops....		29 00	
	2 Stop boxes, complete....		10 00	
	2 4-inch pipe....		5 56	
	1 6x6 double branch....		8 40	
	2 6x4 single branches....		15 01	
	2 6-inch plugs....		2 13	
	450 pounds lead....		22 50	
	Yarn and coke....		3 00	
	Labor and carting....		112 95	
Sept. 1892	*Adams Street, from East Kinney*			352 23
	to Oliver Street.	245		
	21 12-inch pipe....		227 03	
	1 12-inch sleeve....		5 70	
	485 pounds lead....		24 25	
	Yarn and coke....		5 00	
	Labor and carting....		154 85	
				416 83
	Amount forward....			$11,466 10

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward....			$11,466 10
Sept. 1892	*Thirteenth Avenue, from Richmond to Rutgers Street.*	509		
	9 6-inch pipe..................		$175 11	
	4 6-inch 90 degree bends.....		14 31	
	3 6-inch bevel hubs...........		10 50	
	8½ feet 6-inch hubs..............			
	10 feet 6-inch spigot..........		6 74	
	450 pounds lead.		22 50	
	Yarn and coke.....		5 00	
	Labor and carting................		157 06	391 22
Sept 1892	*Avon Avenue, from Belmont Avenue to Ridgewood Avenue, and in Ridgewood Avenue, from Avon to Madison Avenues.*	1,025		
	87 6-inch pipe....		390 63	
	2 6x6-inch single branches....		14 42	
	1 6x4-inch single branch......		7 31	
	2 6-inch Galvin stops.........		29 00	
	2 Stop boxes, complete........		10 00	
	1 4 inch pipe.................		2 78	
	1000 pounds lead		50 00	
	Yarn and coke.........		5 00	
	Labor and carting...		228 82	737 96
Oct. 1892	*Mt. Prospect Avenue, from Verona Avenue to Sylvan Avenue.*	556		
	42 6-inch pipe................		188 58	
	27½ feet 6 inch spigot...........		10 36	
	31 6-inch hubs................		7 50	
	1 6-inch Galvin stop..........		14 50	
	1 Stop box, complete.........		5 00	
	1 4-inch pipe.....		2 78	
	1 6x4 single branch......... ..		7 00	
	650 pounds lead................		32 50	
	Yarn and coke....		3 00	
	Labor and carting.....		117 50	388 72
Oct. 1892	*Fredonia Avenue, from Highland Avenue to Ridge Street.*	500		
	43 6-inch pipe................		193 07	
	1 6-inch Galvin stop..........		14 50	
	1 Stop box, complete.........		5 00	
	2 4 inch pipe.................		5 56	
	2 6x4 single branches....		15 86	
	1 6x6 double branch..........		8 75	
	665 pounds lead................		33 25	
	Yarn and coke..................		3 00	
	Labor and carting...		108 88	387 87
	Amount forward............			$13,371 87

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO OF FEET.	COST.	
	Amount brought forward ...			$13,371 87
Oct. 1892	*Rose Street, from Broome Street to Stratford Place.*	258		
	22 6-inch pipe................		$98 78	
	1 6-inch Galvin stop..........		14 50	
	1 Stop box complete..........		5 00	
	1 6-inch sleeve...............		2 87	
	298 pounds lead.......		14 90	
	Yarn and coke		3 00	
	Labor and carting.......		77 56	
				216 61
Oct. 1892	*Gotthardt Street, from Hamburg Place, to New York Avenue.*	820		
	70 6-inch pipe		314 30	
	1 6x6 patent sleeve and stop...		26 60	
	1 Stop box, complete.........		5 00	
	1 4-inch pipe.................		2 78	
	1 6x4 single branch...		7 91	
	850 pounds lead...............		42 50	
	Yarn and coke		5 00	
	Labor and carting.		168 25	
				572 34
Oct. 1892	*Vincent Street, from Horatio Street, south about 217 feet.*	217		
	18 6-inch pipe................		80 82	
	2 6-inch Galvin stops.........		29 00	
	2 Stop boxes, complete.......		10 00	
	1 6x4 single branch..........		7 88	
	1 6x6 double branch..........		8 93	
	1 4-inch pipe.........		2 78	
	240 pounds lead...............		12 00	
	Yarn and wood.............		3 00	
	Labor and carting		54 25	
				208 66
Oct. 1892	*Albert Avenue, from Esther to Joseph Streets.*	269		
	23 6-inch pipe...		103 27	
	1 6-inch Galvin stop..........		14 50	
	1 Stop box, complete....		5 00	
	325 pounds lead....		16 25	
	Yarn and coke............... ..		3 00	
	Labor and carting		77 94	
				219 96
Oct. 1892	*Hudson Street, from Sussex Avenue to Dickerson Street.*	477		
	34 6-inch pipe.................		152 66	
	65 feet 6-inch hub and spigot pieces..........		24 05	
	6 6-inch double hubs..........		15 00	
	2 6-inch Galvin stops		29 00	
	2 Stop boxes, complete.......		10 00	
	1 6x4 single branch...........		7 35	
	1 6 to 4 reducer..............		3 99	
	675 pounds lead...............		33 75	
	Yarn and coke.................		5 00	
	Labor and carting......		190 44	
	Amount forward............			471 24
				$15,060 68

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET	COST.	TOTAL.
	Amount brought forward....			$15,060 68
Oct 1892	*Fourteenth Ave., from Fairmount Avenue to Camden Street.*	280		
	24 6-inch pipe..................		$107 76	
	1 6-inch Galvin stop		14 50	
	1 Stop box, complete............		5 00	
	325 pounds lead................		16 25	
	Yarn and coke..................		3 00	
	Labor and Carting..............		83 93	230 44
Oct. 1892	*Jelliff Avenue, from 18th Avenue to Waverly Place.*	716		
	60 6-inch pipe		269 40	
	12 feet 6 inch hub.............		7 50	
	1 6-inch Galvin stop........ ..		14 50	
	1 Stop box, complete..........		5 00	
	1 4-inch pipe..................		2 78	
	1 6x4 single branch		7 35	
	745 pounds lead................		37 25	
	Yarn and wood........		5 00	
	Labor and carting....		183 83	532 61
Oct. 1892	*South 14th Street, from S. Orange to Sixteenth Avenues.*	1,944		
	159 6-inch pipe.................		713 91	
	6 6-inch hubs...		15 00	
	60 feet 6-inch spigot pieces.....		22 20	
	1 6x6 patent sleeve and stop...		26 60	
	1 Stop box, complete..........		5 00	
	4 6-inch Galvin stops..........		58 00	
	4 Stop boxes, complete.......		20 00	
	4 4-inch pipe.................		11 12	
	4 6x6 single branches.........		33 04	
	2 6x6 double branches........		17 67	
	5 6-inch plugs................		5 41	
	2500 pounds lead................		125 00	
	Yarn and wood..................		5 00	
	Labor and carting...............		437 81	1,495 6
Nov. 1892	*South 18th Street, from dead end north of 12th Ave. to 11th Ave*	624		
	53 6-inch pipe..................		237 97	
	2 4-inch pipe..................		5 56	
	2 6x4 single branches.........		14 42	
	1 6-inch plug....		1 05	
	625 pounds lead................		31 25	
	Yarn and coke..................		3 00	
	Labor and carting...............		196 85	
				490 10
	Amount forward			$17,809 59

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward...			$17,809 59
Nov. 1892	*Summer Place, from Chester Avenue south 459 feet.*	459		
	39 6-inch pipe		$175 11	
	1 6-inch Galvin stop		14 50	
	1 Stop box, complete		5 00	
	1 4-inch pipe		2 78	
	1 6x4 single branch		7 14	
	1 6-inch plug		1 05	
	450 pounds lead		22 50	
	Yarn and coke		3 00	
	Labor and carting		159 90	
				390 98
Nov. 1892	*Woodside Avenue, from Elwood Avenue north 229 feet.*	229		
	19 6-inch pipe		85 31	
	1 30x6 pat. sleeve and stop (double).		101 08	
	1 Stop box, complete		5 00	
	1 6-inch Galvin stop		14 50	
	1 Stop box, complete		5 00	
	1 4-inch pipe		2 78	
	1 6x6 double branch		9 24	
	1 6x4 single branch		7 03	
	1 6-inch plug		1 05	
	425 pounds lead		21 25	
	Yarn and wood		3 00	
	Labor and carting		77 95	
				333 19
Nov. 1892	*North Canal Street, from Cherry to River Streets.*	736		
	62 6-inch pipe		278 38	
	1 24x6 pat. sleeve and stop		65 89	
	1 Stop box, complete		5 00	
	1 6-inch Galvin stop		14 50	
	1 Stop box, complete		5 00	
	1 4-inch pipe		2 78	
	2 6x4 single branch		14 35	
	1 6-inch bevel hub		3 50	
	1 6 to 4 reducer		3 85	
	900 pounds lead		45 00	
	Yarn and coke		5 00	
	Labor and carting		233 74	
				676 97
	Amount forward			$19,210 73

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward....			$19,210 73
Nov. 1892	*North 6th Street, from Sussex Ave. to Dickerson Street.*	496		
	42 6-inch pipe....		$188 58	
	1 6x4 single branch...... ..		7 28	
	1 6-inch Galvin stop..........		14 50	
	1 Stop box, complete.		5 00	
	9 feet of six-inch hub & spigot.		3 33	
	1 6 to 4 reducer...............		2 73	
	1 6-inch plug.................		1 05	
	650 pounds lead....		32 50	
	Yarn and coke...........		3 00	
	Labor and carting		133 25	391 22
Dec. 1892	*Lake Street, from Fifth Avenue north of 4th Avenue 550 feet.*	1,494		
	127 6-inch pipe.................		570 23	
	3 6-inch Galvin stops.........		43 50	
	3 Stop boxes, complete.........		15 00	
	2 6x6 double branches........		18 93	
	2 6x4 single branches.........		14 49	
	2 4-inch pipe.................		5 56	
	1 6-inch sleeve................		2 87	
	5 6-inch plugs....		5 25	
	1620 pounds lead...............		81 00	
	Yarn and wood....		5 00	
	Labor and carting...............		352 34	1,114 17
Dec. 1892	*Westcott Street, from Ferry to Paterson Streets.*	391		
	33 6-inch pipe...		148 17	
	1 6x6 patent sleeve and stop..		26 60	
	1 6x4 single branch....... ..		7 17	
	1 4-inch pipe.................		2 78	
	1 6-inch bevel hub............		3 81	
	1 6-inch plug.................		1 19	
	595 pounds lead....		29 75	
	Yarn and coke............		3 00	
	Labor and carting..............		110 81	333 28
				$21,049 40

REPAIRS OF STREET MAINS.

Jan. 1892.	—Repairing break on 4-inch main at South Canal Street, and Railroad Place.		
	1 4-inch sleeve	$1 79	
	4 feet 4-inch hub	1 04	
	35 pounds lead	1 75	
	Yarn ahd wood	1 00—	$5 58
"	—Putting in new 6-inch stop on Sussex Avenue, at the canal.		
	1 6-inch Galvin stop	14 50	
	1 Stop box, frame and cover	5 00	
	1 6-inch sleeve	2 94	
	2½ feet 6-inch spigot	85	
	50 pounds lead	2 50	
	Yarn and wood	1 00—	26 79
Feb. 1892.	—Repairing break on 6-inch main on Broad Street, between South and Parkhurst Streets.		
	1 6-inch sleeve	2 98	
	6 feet 6-inch hub	2 04	
	40 pounds lead	2 00	
	Yarn and wood	1 00—	8 02
Mar. 1892.	—Repairing break on 4-inch main on Passaic Avenue, east of Jackson Alley		
	2 4-inch sleeves	3 64	
	6 feet 4-inch hub	1 50	
	6 feet 4-inch Galvin stops	22 00	
	40 pounds lead	2 00	
	Yarn and wood	1 00—	30 14
"	—Putting in new Stop in place of old Stop, at Somerset and Spruce Streets.		
	1 6-inch Galvin stop	14 50	
	1 6-inch sleeve	3 15	
	3 feet 6-inch spigot	1 02	
	35 pounds lead	1 75	
	Yarn and wood	1 00—	21 42
April 1892.	—Repairing break on 4-inch main at Boyden and Orange Streets.		
	1 4-inch sleeve	1 75	
	9 feet 4-inch spigot	2 16	
	35 pounds lead	1 75	
	Yarn and wood	1 00—	6 66
			$98 61

	Amount brought forward		$98 61
April 1892.—	Relaying 6-inch main in Washington Place, from Broad to Washington Streets.		
	45 6-inch pipe	202 05	
	1 24x6 inch sleeve and stop	65 86	
	3 6-inch bevel hubs.	12 00	
	2 6-inch bevel hubs	7 91	
	1 6-inch sleeve	3 08	
	1 6x6 single branch	7 66	
	1 6-inch plug	1 05	
	2 6-inch Galvin stops	29 00	
	3 6-inch Stop boxes, complete	15 00	
	2 6-inch ⅛ bends	8 29	
	8 ⅝ inch corporation stops	5 20	
	3 1-inch corporation stops	5 55	
	77 pounds lead pipe, ⅝ inch	4 62	
	37 pounds lead pipe, 1 inch	2 22	
	820 pounds lead	41 00	
	Yarn and coke	3 00—	413 49
May 1892—	Repairing break on 4 inch branch pipe at High and Mercer Streets.		
	1 6x4 single branch	7 32	
	1 6-inch sleeve	2 80	
	2 foot 4-inch spigot	48	
	1 4-inch pipe	2 78	
	1 4-inch stop (Galvin)	9 00	
	1 4-inch Galvin stop box	3 00	
	60 pounds lead	3 00	
	Yarn and wood	1 00—	29 38
"	Repairing break on 6-inch main at Ferry and Union Streets		
	1 6-inch sleeve	2 90	
	3 foot 6-inch hub	1 11	
	40 pounds lead	2 00	
	Yarn and wood	1 00—	7 01
"	Relaying 6-inch main in James Street, from Washington to Burnett Streets.		
	92 6-inch pipe	413 00	
	4 6x4 inch single branches	29 54	
	1 4x4 inch single branch	4 23	
	3 4-inch pipe	8 34—	455 11
			$548 49

	Amount brought forward		$548 49
May 1892.—	4 6-inch Galvin stops	58 00	
	4 6-inch Stop boxes, complete	20 00	
	3 4-inch sleeves	5 32	
	1 6 to 4-inch reducer	4 13	
	2 4-inch bevel hubs	4 23	
	6 feet 4-inch spigot	2 23	
	1 6x3 inch single branch	6 58	
	1 3-inch stop	9 00	
	1 3-inch sleeve	1 43	
	6 feet 3-inch spigot	1 26	
	50 ⅝ inch corporation stops	32 50	
	108 pounds ⅝ inch lead pipe	5 40	
	1300 pounds lead	65 00	
	Yarn and wood	5 00—	675 91
June 1892.—	Repairing break on 4-inch main at William and Arlington Streets.		
	1 4-inch sleeve	1 86	
	3 feet 4-inch hub	72	
	30 pounds lead	1 50	
	Yarn and wood	50—	4 58
	Relaying 6-inch main in Tichenor Street, from Broad Street to N. J. R. R. Avenue.		
	76 6 inch pipe	341 24	
	2 6-inch Galvin stops	29 00	
	2 6-inch Stop boxes, complete	10 00	
	4 4-inch pipe	11 12	
	3 6x4 inch single branches	21 91	
	1 6x6 inch single branch	7 66	
	1 6x6 inch double branch	8 40	
	2 6 to 4-inch reducers	7 63	
	1 6-inch sleeve	2 91	
	32 ⅝ inch corporation stops	20 80	
	56 pounds ⅝ inch lead pipe	3 36	
	995 pounds lead	49 75	
	Yarn and wood	2 00—	515 78
July 1892.—	Repairing break on Division Street, near Spring Street.		
	1 4-inch pipe	2 78	
	1 4-inch sleeve	1 68	
	40 pounds lead	2 00	
	Yarn and wood	1 00—	7 46
			$1,751 50

	Amount brought forward		$1,751 50
Aug. 1892.—	Repairing break on 2-inch main between Halsey and Washington Streets.		
	4 feet 4-inch spigot	50	
	1 2-inch sleeve	53	
	25 pounds lead	1 25	
	Yarn and wood	50—	2 78
"	Relaying 6-inch for 4-inch main in Park Place, from Centre to Broad Streets.		
	97 6-inch pipe	435 53	
	4 6-inch Galvin stops	58 00	
	4 6-inch Stop boxes, complete	20 00	
	3 4-inch Galvin stops	27 00	
	3 4-inch Stop boxes	11 00	
	5 4-inch pipe	13 90	
	1 6x6 single branch	6 93	
	4 6x4 inch single branches	29 08	
	2 6 to 4 inch reducers	5 70	
	1 4x4 inch single branch	2 91	
	1 4 inch beveled hub	1 80	
	2 6-inch beveled hubs	7 21	
	1 6-inch ¼ bend	3 50	
	1 10x6 inch pat. sleeve and stop	34 20	
	4 1-inch corporation stops	7 40	
	19 ⅝ inch corporation stops	12 35	
	264 pounds lead pipe, ⅝ inch 204 pounds lead pipe, 1-inch	23 17	
	1530 pounds lead	76 50	
	Yarn and wood	5 00—	781 18
"	Relaying 6-inch main in Pennington St., from Orchard to Mulberry Streets.		
	39 6-inch pipe	175 11	
	1 6-inch Galvin stop	14 50	
	2 6-inch Stop boxes, complete	10 00	
	22 ⅝ inch corporation stops	14 30	
	84 pounds ⅝ inch lead pipe	4 15	
	450 pounds lead	22 50	
	Yarn and wood	3 00—	243 56
			$2,779 02

Amount brought forward		$2,779 02
Aug. 1892.—Relaying 6-inch main in Thomas Street, from Broad to Orchard Streets.		
42 6-inch pipe	188 88	
2 6-inch Galvin stops	29 00	
2 6-inch Stop boxes, complete	10 00	
1 4-inch Galvin Stop	9 00	
1 4-inch Galvin stop box	3 00	
3 6x4 inch single branches	21 84	
1 6 to 4-inch reducer	4 06	
1 4-inch sleeve	1 75	
1 4-inch pipe	2 78	
15 feet 4-inch hub	3 60	
6 feet 6-inch hub	2 22	
17 ⅝ inch corporation stops	11 05	
1 1-inch corporation stop	1 85	
93 pounds ⅝ and 1-inch lead pipe	4 60	
650 pounds lead	32 50	
Yarn and wood	5 00—	331 13
Sept. 1892.—Relaying 6-inch main in Orchard Street, from E. Kinney to Chestnut Street.		
40 6-inch pipe	199 60	
4 6-inch Galvin Stops	58 00	
4 6-inch Stop boxes, complete	20 00	
2 6x4 inch single branches	14 63	
1 6x6 double branch	8 63	
2 6 to 4-inch reducers	5 53	
1 4-inch pipe	8 13	
1 4-inch Galvin stop	9 00	
1 4-inch Galvin Stop box	3 00	
3 6-inch sleeves	8 68	
1 4-inch sleeve	1 75	
21 ⅝ inch taps	13 65	
47 pounds ⅝ inch lead pipe	2 82	
675 pounds lead	33 75	
Yarn and wood	5 00—	392 22
Oct. 1892—Repairing break on 4-inch main in Norfolk and Academy Streets.		
1 4-inch sleeve	1 89	
3 feet 4-inch hub	72	
35 pounds lead	1 75	
Yarn and wood	50—	4 86
		$3,507 23

	Amount brought forward....................		$3,507 23
Oct.	1892—Putting in two 4-inch Galvin stop at Nassau and Boyden Streets.		
	2 4 inch Galvin stops................	18 00	
	2 Stop boxes, complete...............	10 00	
	2½ feet 4-inch hub................	60	
	35 pounds lead......................	1 75	
	Yarn and wood......................	50—	30 85
"	—Repaired 4-inch main in West Park Street, near Halsey Street.		
	1 4-inch sleeve....................	1 79	
	4 feet 4 inch hub.	72	
	25 pounds lead....................	1 25	
	Yarn and wood......................	50—	4 26
"	—Relaying 4 inch main in Boyden Street, from Orange Street about 300 feet south		
	25 4-inch pipe......................	69 50	
	1 4-inch Galvin stop.................	9 00	
	1 Stop box, complete..............	5 00	
	283 pounds lead......................	14 15	
	12 ⅝ corporation stops...............	7 80	—105 45
Nov.	1892—Relaying 6-inch in place of 4-inch main, Hill Street, from Broad to Washington Street.		
	64 6-inch pipe......................	287 36	
	1 24x6 inch pat. sleeve and stop......	65 87	
	1 Stop box, complete...............	5 00	
	3 6-inch Galvin stops...............	43 50	
	3 Stop boxes, complete.............	15 00	
	3 6 to 4 reducers..................	11 76	
	1 6x4 single branch................	7 00	
	1 4-inch pipe......................	2 78	
	24 ⅝ inch corporation stops...........	15 60	
	2 1-inch corporation stops............	3 70	
	2 6x2 pat. sleeve stops	32 97	
	5½ feet 2-inch galvanized pipe........	1 70	
	1000 pounds lead....................	50 00	
	Yarn and wood......................	5 00—	547 24
"	—Repairing break on 3-inch main in Bleecker Street, between Washington and Halsey Streets.		
	1 3-inch sleeve	1 33	
	3 feet 3-inch hub..................	60	
	35 pounds lead.....................	1 75	
	Yarn and wood	50—	4 18
			$4,199 21

RENEWED STOP BOXES.

Amount brought forward....................			$4.199 21
Feb. 1892.—Camden and Cabinet Streets, 1 6-inch. ..	90		
Camden and 13th Avenue, 1 6-inch........	90		1 80
Mar. 1892.—Somerset and Spruce Streets, 1 6-inch....	90		90
April 1892.—Plane and Academy Streets, 1 6-inch.....	90		
Washington Street and Washington Place. 1 6-inch............................	90		1 80
May 1892.—Orange and Boyden Streets, 1 6-inch......	90		
Eighth Avenue and Boyden Street, 1 6-inch	90		
State and Boyden Streets, 1 6-inch........	90		
Warren and Colden Streets, 1 6 inch......	90		
South Canal and Park Place, 1 6-inch.....	90		
South Canal and Mulberry Streets, 1 6-inch	90		
Colden and New Streets, 1 6-inch.........	90		
Market and Plane Streets, 1 6 inch........	90		
Colden and Bleecker Streets, 1 6-inch.....	90		
Colden Street and Sussex Avenue, 1 6-inch	90—		9 00
June 1892.—Colden and Warren Streets, 1 6-inch......	90		
Emmett and Broad Streets, 1 6-inch......	90		
Emmett Street and Penn. Avenue, 1 6-inch	90		
Nesbit St., near Sussex Avenue, 1 6-inch..	90		
Plane St., south William Street, 1 6-inch..	90		
William St., east Plane Street, 1 6-inch...	90		
Arlington St., south William St., 1 6-inch.	90		
Orange St., east Broad Street, 1 6-inch....	90		
Burnett St., south Orange Street, 1 6-inch.	90		
Pacific St., south Walnut Street, 1 6-inch..	90		
Pacific St., south Warwick Street., 1 6-inch	90		
Pacific St., north Walnut Street, 1 6-inch .	90		
Sheffield St., north Sussex Avenue, 1 6-inch	90		
Newark St., north Warren Street, 1 6-inch.	90		
Nesbit St., south Orange St., 1 6-inch.....	90—		13 50
July 1892.—Oliver and McWhorter Streets, 1 6-inch...	90		
Oliver near Pacific Street, 1 6-inch........	90		
Eighth Avenue and Broad Street, 1 6-inch.	90		
N. Y. Ave., west side of Pacific 1 6-inch ..	90		
Washington Place and Washington Street, 1 6-inch..........................	90		
Ogden and Orange Streets, 2 6-inch... ...	180		
Essex St., north side James St., 1 6-inch..	90		
Eagles St., north side James St., 1 6-inch..	90		
Wilsey St., north side Bank St., 1 6-inch..	90		
Nesbit St., north side Orange St, 1 6 inch.	90		
Pacific and Elm Streets, 1 6-inch...	90		
Wilsey St., north Academy St., 1 6-inch...	90		
Academy St., east Wilsey St., 1 6 inch....	90—		
		$12 60	$4,226 21

	Amount brought forward......................	12 60	4,226 21
July 1892.—	Passaic and Clark Streets 1 6-inch........	90	
	Lemon and Nesbit Streets, 1 6-inch.. ...	90	
	Court Street and Belmont Avenne, 1 6-inch	90	
	Warren Street north Wilsey Street, 1 6-inch	90	
	Wilsey Street, west Warren Street, 1 6-inch	90	
	Wilsey Street, east Warren Street, 1 6-inch	90	
	Warwick Street, east Pacific Street, 1 6-inch	90	
	Nichols Street, east Pacific Street, 1 6-inch	90	
	N. J. R. R. Ave., east Walnut Street 1 6-inch	90	
	Howard Street, east Bank Street, 1 6-inch	90	
	McWhorter Street, east Walnut St., 1 6-inch	90	
	E. Kinney Street, east Pacific Street, 1 6-inch	90	
	Grant Street, east Broad Street, 1 6-inch..	90	
	Grant Street, west Spring Street, 1 6-inch..	90	
	Oriental St., and Mt. Pleasant Ave., 1 6-inch	90	
	Quitman Street, north Spruce Street, 1 6-inch	90	
	Quitman Street, south Spruce St., 1 6-inch	90	
	Monmouth Street, north Spruce St., 1 6-inch	90	
	Monmouth Street, south Spruce St., 1 6-inch	90	
	Spruce Street, east Monmouth St., 1 6-inch	90	
	Eighth Avenue, and Nesbit Street, 1 10-in..	10 00	
	Adam and Walnut Streets, 1 6-inch.......	90	
	Jefferson and Walnut Streets, 1 6-inch....	90	
	Pacific and Walnut Streets, 1 6-inch.......	90	
	East Kinney and Pacific Streets, 1 6-inch..	90	
	McWhorter and Walnut Streets, 1 6-inch .	90—	45 10
Aug. 1892.—	N. Y. Avenue, east Pacific Street, 1 6-inch	90	
	Oliver Street, east Pacific Street, 1 6-inch.	90	
	Mulberry Street, south River Street, 1 6-inch	90	
	Harvey St. and Mt. Pleasant Ave., 1 6-inch	90	
	Bruen and Elm Street, 1 6-inch...........	90	
	Pacific and Chestnut Streets, 1 6-inch.....	60	
	Spruce Street, east Barclay Street. 1 6-inch	90	
	Spruce Street, west Barclay Street, 1 6-inch	90	
	Washington Place, 1 6-inch..............	90	
	Orange and First Streets, 1 6-inch.... ...	90	
	Warren Street, east Plane Street, 1 6-inch.	90	
	Plane Street, north Warren Street, 1 6-inch	90	
	Plane Street, south Warren Street, 1 6-inch	90	
	Barclay Street, north Spruce Street, 1 6-inch	90—	12 60
Sept. 1892—	Broome and Spruce Street, 1 6-inch......	90	
	Bruce and Spruce Streets, 4 6-inch........	3 60	
	Belmont Avenue and Spruce Street, 1 6-inch	90	
	Charlton Street, north Spruce Street, 1 6-inch	90	
	Charlton St., south Spruce Street, 1 6-inch.	90	
	Market and Beaver Street, 1 6-inch.......	90	
	Thirteenth Ave. and Richmond St., 2 6-inch	1 80	
	Thirteenth Ave., and Wallace St., 2 6 inch	1 80	
	Thirteenth Ave., and Rutgers St., 2 6-inch	1 80	
	Thirteenth Ave., and Newton St., 1 6-inch.	90	
		$14 40	$4,283 91

	Amount brought forward	14 40	$4,283 91
Sep. 1892.—	Fourth and Summer Avenues, 1 6-inch	90	
	Fourth Ave. and Garside Street, 1 6-inch	90	
	Littleton and S. Orange Aves., 1 10-inch	10 00	
	Bruce St. and S. Orange Ave., 1 10-inch	10 00	36 20
Oct. 1892.—	Van Buren and Glover Sts., 1 6-inch	90	
	Clinton Ave. and Thomas St., 1 6-inch	90	
	Mt. Prospect and Fourth Aves., 1 6-inch	90	
	Bloomfield and Fourth Aves., 1 6-inch	90	
	Broad St. and Fourth Ave., 1 6-inch	90	
	Nassau and Boyden Sts., 2 6-inch	1 80	
	Van Buren and Lafayette Sts., 2 6-inch	1 80—	8 10
Nov. 1892.—	Clover and Polk Streets, 1 6-inch	90	
	Penn. Ave. and Parkhurst St., 1 6-inch	90	
	Polk Street, 1 6-inch	90—	2 70
Dec. 1892.—	Parkhurst and Brunswick Sts., 1 6-inch	90	
	Niagara and Bremen Sts., 1 6-inch	90	
	Parkhurst St. and Clinton Ave., 1 6-inch	90	
	Parkhurst St. and Penn. Ave., 1 6-inch	90	
	Hamilton and Lawrence Streets, 1 6-inch	90	
	Newton St. and 13th Avenue, 1 6-inch	90	
	Richmond St. and S. Orange Ave., 1 6-inch	90	
	Beacon St. and S. Orange Ave., 1 6-inch	90	
	Newton St. and S. Orange Ave., 1 6-inch	90	
	Bruce St. and S. Orange Ave., 1 6-inch	90	
	Howard St. and S. Orange Ave., 1 6-inch	90	
	Plane and Market Streets, 1 6-inch	90	
	Academy and High Streets, 1 6-inch	90	
	Warren and Hudson Streets, 1 6-inch	90	
	Warren and Newark Streets, 1 6-inch	90	
	Warren and Lock Streets, 1 6-inch	90	
	Warren and Searing Streets, 1 6-inch	90	
	Warren and Searing Streets, 1 6-inch	90	
	Warren and Arch Streets, 1 6-inch	90	
	Warren and Plane Streets, 1 6-inch	90	
	Hackett and Plane Streets, 1 6-inch	90—	18 90
			$4.349 81
	Labor, Cartage, etc		3.796 59
			$8,146 40

SERVICES FROM JANUARY 1, 1892 TO JANUARY 1, 1893.

MONTHS.	SIZE.	New Services.	Services Renewed.	No. Taps only.	No. Taps & Boxes only.	No. Boxes only.	New Water Takers.	No. Feet of Pipe.	CHARGES.
January, 1892	⅝ inch	46	3		1	1	48	1,077	$ 764 94
February, "	"	57	3		..	2	59	1,231½	904 34
March, "	"	117	1		2	..	119	2,364½	1,784 00
April, "	"	141	6		2	3	146	3,140	2,217 00
May, "	"	155	1		..	1	156	3,124½	2,354 44
June, "	"	114	7		3	1	118	2,215½	1,830 40
July, "	"	82	..		1	5	88	1,551	1,252 00
August, "	"	148	7		..	2	150	3,021½	2,352 08
September, "	"	142	1	1	4	6	153	2,795½	2,212 15
October, "	"	141	..		2	3	146	3,026	2,173 87
November, "	"	104	4		1	4	109	2,303	1,650 44
December, "	"	63	4		2	..	65	1,413½	1,016 48
Totals		1310	37	1	18	28	1,357	27,263½	$20,512 14

SERVICE FROM JANUARY 1, 1892 TO JANUARY 1, 1893.

MONTHS.	SIZE.	New Services.	Services Renewed.	No. Taps only.	No. Taps & Boxes only.	No. Boxes only.	New Water Takers.	No. Feet of Pipe.	CHARGES.
January, 1892	1 inch.	2	2	..	..	..	2	101	$88 00
February, "	"	1	..	..	..	..	1	18	23 00
March, "	"	4	..	..	..	..	4	85^{2}	92 00
April, "	"	8	..	..	1	..	9	201^{2}	194 00
May, "	"	10	..	..	1	..	11	183	240 00
June, "	"	6	4	..	..	..	6	170	226 00
July, "	"	..	..	..	..	..	..	...	00
August, "	"	8	..	..	1	..	9	202	184 00
September, "	"	4	3	..	1	1	6	121^{2}	172 00
October, "	"	1	..	..	..	..	1	22	23 00
November, "	"	4	..	..	2	..	6	65	115 00
December, "	"	2	..	..	..	..	2	42^{2}	46 00
Totals		50	9		6	1	57	1,212	$1,403 00

RECAPITULATION.

SIZE.	New Services.	Services Renewed.	No. Taps only.	No. Taps & Boxes only.	No. Boxes only.	New Water Takers.	No Feet of Pipe.	CHARGES
⅝ inch Services	1,310	37	1	18	28	1,357	27.263^{2}	$20,512 14
1 " "	50	9	..	6	1	57	1,212	1,403 00
Totals	1,360	46	1	24	29	1,414	28.475^{2}	$21 915 14

CONNECTIONS FROM JANUARY 1, 1892, TO JANUARY 1, 1893.

MONTHS.	½ INCH.	2 INCH.	3 INCH.	4 INCH.	6 INCH.	TOTAL.
January, 1892	..	2	..	1	..	3
February “	..	2	..	..	..	2
March “	..	1	.	..	..	1
April, “	..	5	..	..	..	5
May, “	..	1	1	..	..	2
June, “	..	3	..	..	..	3
July, “	..	2	..	..	..	2
August, “	..	1	..	1	..	2
September, “	..	1	2	..	1	4
October, “	..	4	..	..	..	4
November, “	1	1	..	2	..	4
December, “	..	..	..	2	..	2
Totals	1	23	3	6	1	34

NEW METERS SET FROM JANUARY 1, 1892, TO JANUARY 1, 1893.

MONTHS.	⅝ INCH.	¾ INCH.	1 INCH.	½ INCH.	2 INCH.	3 INCH.	4 INCH.	6 INCH.	TOTAL.
January, 1892	1	..	5	..	1	..	1	..	8
February, "	..	..	2	..	3	..	..	..	5
March. "	3	..	..	..	2	1	..	..	6
April, "	43	6	21	..	11	..	..	..	81
May, "	54	6	22	..	10	1	..	..	93
June, "	41	7	28	2	9	2	..	1	90
July, "	10	..	7	..	5	..	..	..	22
August, "	29	5	16	1	5	1	1	..	58
September, "	11	1	7	..	2	2	..	..	23
October, "	16	1	12	1	3	2	..	..	35
November, "	10	1	3	2	2	..	..	..	18
December, "	9	1	4	3	2	..	2	..	21
Totals	227	28	127	9	55	9	4	1	460

INVENTORY NO. I.

STREET MAINS, STOCK AND MATERIAL.

IRON PIPE.

Three inch, 12 feet, at $	17½	$ 2 10
Four inch, 12 feet, at..	23	2 78
Six inch, 216 feet, at...	37	79 92
Eight inch, 24 feet, at..	68	16 32
Ten inch, 312 feet, at..	82	255 84
Twelve inch, 24 feet, at	91	21 84
Sixteen inch, 132 feet at	1 50	198 00
Twenty inch, 36 feet, at	2 17	78 12
Twenty-four inch, 132 ft	2 67	352 44
Thirty inch, 180 ft., at.	4 42	795 60

SLEEVES.

Two inch, 3 at.......	40	$ 1 20
Three inch, 2, at......	1 30	2 60
Four inch, 3, at.......	1 85	5 55
Six inch, 4, at..... .	2 80	11 20
Eight inch, 5, at......	3 65	7 30
Ten inch, 1, at........	4 75	4 75
Twelve inch, 1, at....	5 70	5 70
Sixteen inch, 3, at.....	7 25	21 75
Twenty inch, 10, at....	8 25	82 50
Twenty-four inch, 2, at.	13 70	27 40
Thirty inch, 1, at......	30 72	30 70

BENDS, 90 DEGREES.

Three inch, 3, at......	1 10	$ 3 30
Four inch, 2, at........	2 40	4 80
Sixteen inch, 1, at....	10 00	10 00

BENDS, 45 DEGREES.

Three inch, 4, at......	1 10	$ 4 40
Six inch, 6, at.........	4 23	25 38

BENDS, 65 DEGREES.

Thirty-four inch, 3, at.	26 50	$ 79 50

DOUBLE BRANCHES.

Three by three, 4, at...	3 15	$ 12 60
Four by four, 4, at....	3 85	15 40
Eight by six, 1, at.....	10 50	10 50
Ten by six, 3, at......	11 50	34 50
Ten by ten, 1, at......	13 50	13 50
Sixteen by six, 3, at....	22 50	67 50

Amount forward $2,285 01

Amount brought forward	$2,285 01

EXTENSION FLANGED HYDRANT PIPE.

Four inch, 2, at	$2 50	$ 5 00

SINGLE BRANCHES.

Two by two, 2, at	$1 50	$ 3 00
Three by three, 1, at	2 43	2 43
Three by six, 1, at	6 37	6 37
Four by two, 1, at	2 35	2 35
Four by three, 2, at	2 80	5 60
Four by four, 1, at	3 15	3 15
Four by six, 1, at	7 31	7 31
Six by four, 1, at	7 31	7 31
Six by six, 3, at	7 66	22 98
Eight by six, 1, at	8 58	8 58
Ten by two, 1, at	8 58	8 58
Ten by four, 1, at	9 00	9 00
Ten by six, 1, at	11 00	11 00
Ten by ten, 3, at	12 95	38 85
Twelve by four, 1, at	15 00	15 00
Twelve by eight, 1, at	16 00	16 00
Sixteen by four, 1, at	23 00	23 00
Sixteen by six, 4, at	23 25	93 00
Twenty by four, 1, at	24 25	24 25
Twenty by twelve, 1, at	30 00	30 00
Twenty-four by ten, 2 at	40 00	80 00

REDUCERS.

Three to two, 4, at	$ 95	$ 3 80
Four to three, 3, at	2 00	6 00
Six to four, 2, at	2 95	5 90
Eight to six, 5, at	9 00	45 00
Ten to six, 1, at	9 45	9 45
Ten to eight, 1, at	10 00	10 00
Twenty to ten, 2, at	12 00	24 00
Twenty to sixteen, 1, at	14 50	14 50

CAPS.

Two inch, 2, at	$ 25	$ 50
Three inch, 3, at	31	93
Four inch, 42, at	42	17 64
Six inch, 1, at	1 12	1 12
Ten inch, 1, at	2 00	2 00
Twelve inch, 2, at	3 00	6 00
Sixteen inch, 1, at	4 00	4 00

$2,858 61

Amount brought forward			$2,858 61

Caps, continued, amount forward.

Twenty inch, 1, at	$6 00	$ 6 00	
Twenty-four inch, 3, at	8 00	24 00	
Thirty inch, 2, at	10 80	21 60	

PLUGS.

Three inch, 3, at	$ 25	$ .75	
Four inch, 56, at	40	22 40	
Six inch, 47, at	60	28 20	
Sixteen inch, 1, at	3 00	3 00	
Twenty inch, 1, at	5 00	5 00	
Twenty-four inch, 1, at	8 00	8 00	
Thirty inch, 1, at	10 00	10 00	

BEVELED HUBS.

Three inch, 1, at	$1 75	$ 1 75	
Six inch, 2, at	3 92	7 84	
Ten inch, 2, at	9 00	18 00	
Twenty-four inch, 1, at	17 50	17 50	

STOP VALVES.

Three inch, 5, at	$10 00	$ 50 00	
Four inch, (Galvin) 34, at	9 00	306 00	
Four inch, (Hewes & Phillips) 4 at	10 00	40 00	
Six inch, (Hewes & Phillips) 4, at	10 00	40 00	
Six inch, (Galvin) 29, at	14 50	420 50	
Ten inch, (Galvin) 2, at	22 50	45 00	
Ten inch, 5, at	10 00	50 00	
Twenty-four inch, (Galvin) 1, at		262 50	

A. P. SMITH'S PATENT SLEEVES.

Four by two, 1, at	$3 25	$ 3 25	
Four by three, 4, at	3 50	14 00	
Six by two, 2, at	4 75	9 50	
Six by three 1, at	4 65	4 65	
Six by four, 4, at	5 00	20 00	

MISCELLANEOUS.

Lead, 773 pounds, at	$ 4¾	$ 36 71	
Yarn, 70 pounds, at	9	6 30	
Twenty by twenty, "Y" branch, 1, at		61 00	
Sixteen by ten, "Y" branch, 1, at		23 40	
Sixteen by three angle branch, 1, at		20 00	
Six by six, angle branch, 2, at	9 85	19 70	
Sixteen by twenty-four flanged branch, 1, at		35 75	
Twenty-four inch curved pipe, 1, at		24 00	
Thirty inch curved pipe, 1, at		30 00	
Cross piece for twenty-four in. plug, 1, at		2 88	
			$4,557 79

INVENTORY NO. 2.

GENERAL SUPPLIES.

Meter boxes, (wood) 3, at	8 00	$24 00
Meter box frame, 1, at		3 95
Meter box cover, 1, at		3 95
Wood Stop boxes, 26, at	90	23 40
Wood Stop box, 8 feet long, 1, at		1 50
No. 6 Morgan Stop box, 1, at		4 75
No 8 Morgan Stop box, 1, at		7 75
Galvin Stop boxes, (iron) 25, at	3 00	75 00

PAINTS AND OILS.

Venetian red, 6 pounds, at	$ 06	$ 36
Green paint, 10 pounds, at	06	60
Linseed oils, 2 gallons, at	50	1 00
Kerosene oil, 15 gallons, at	12	1 80

HARDWARE.

Ten penny nails, 50 pounds, at	4 cents	2 00

LUMBER.

360 feet 6x6 spruce, at	2 cents	7 20
236 feet 8x8 pine, at	2 cents	4 72
120 feet 3x12 spruce, at	2 cents	2 40
163 feet 10x15 pine, at	2 cents	3 26
80 feet 2x10 spruce, at	2 cents	1 60
80 feet 1¼ box lumber, at	2 cents	1 60
750 feet 12x12 spruce, at	2 cents	15 00
138 feet ⅞ pine, at	2 cents	2 76
1080 feet ¼ pine, at	2 cents	21 60
400 feet ½ cherry, at	2 cents	8 00
45 feet 1½ cherry, at	2 cents	90
200 feet 1½ oak, at	3 cents	6 00

$225 10

INVENTORY NO. 3.

BELLEVILLE AND HIGH SERVICE INVENTORIES.

One portable forge	$ 30	00
One anvil	10	00
Rope, blocks and falls	5	00
Two wheelbarrow scales	120	00
Two coal buckets	160	00
Five iron barrows	100	00
One 3-horse engine	200	00
One drill press	150	00
One shaper	400	00
One lathe and appurtenances, including shafting and counter shafting	600	00
One bench vise	16	00
One carpenter's bench	5	00
Two chain blocks and falls	25	00
One table	3	00
Three forty-gallon cans	15	00
One desk	20	00
One clock	15	00
Two pair step ladders	5	00
One lawn mower	8	00
Coal hoisting	300	00
Apparatus, shed, etc.	139	62
Six chairs	11	10
One pipe vise	15	00
Iron barrows	26	00
Stove and fittings, weighmaster's box	16	66
One wardrobe	5	00
Table	3	00
Eight-day clock	20	00
One platform scale	200	00
One wheelbarrow scale	60	00
Two ladders	8	00
Four tool closets	12	00
One bench and vise	10	00
One pipe vise	15	00
Stove and fixtures at gate house	18	00
Andrew pump, No. 3	100	00
Pully for pump	35	00
Oil cabinets	45	00
	$2,926	38

INVENTORY NO. 4.

OFFICE INVENTORIES—FURNITURE AND FIXTURES ON HAND.

OFFICE.

One cash safe	$ 400 00
One book safe	150 00
Desks, fittings, fixtures and vault	818 00
One portable desk	55 00
Two portable desks	25 00
One automatic check perforator	37 50
One calendar clock	50 00
Eight stools	16 00
Six chairs	24 00
Six office chairs	20 00
One numbering stamp	50 00
One water cooler and stand	10 00
Umbrella stands	15 00
One portable desk, 8 feet long	38 00
One portable desk, 15 feet long	80 75
Floor coverings, cuspidores, mats, etc	157 00

BOARD MEETING ROOM, COMMISSIONERS' ROOM AND SUPERINTENDENT'S ROOM.

Nine desks	$ 266 00
Gas and electric light and general fittings	112 00
Six chairs	100 00
Three chairs	45 00
Two chairs	50 00
Nine chairs	45 00
One couch	50 00
One table	10 00
One table	40 00
Carpets, rugs, maps, cuspidores, etc	265 00
16 rugs	64 00

ENGINEERING AND INSPECTING DEPARTMENT.

Transits	$ 300 00
Level	75 00
Draughting instruments	50 00
Chain and rods	15 00
Maps, racks and fixtures	15 00
Map case	10 00
Three portable desks	54 00
Two tables	32 00
Three chairs	15 00
Three stools	9 00
One table	10 00
Six chairs	18 00
Total	$3,596 25

TELEPHONE LINES AND CALLS.

Balance on hand December 31, 1892	$1,200 00

INVENTORY NO. 5.

STABLE INVENTORY—STOCK AND PROPERTY ON HAND DECEMBER 31, 1892.

Two road horses	$ 600 00
One draught horse	300 00
One draught horse	250 00
Team draught horses	550 00
Two draught horses, Belleville	200 00
One phaeton	325 00
One side bar	125 00
One phaeton, Belleville	50 00
One depot wagon	200 00
Two business wagons	360 00
One truck wagon	235 00
One pipe truck	250 00
One light team harness	50 00
One heavy team harness	40 00
Two sets single harness	30 00
Two sets buggy harness	50 00
One cart and harness	50 00
Blankets, robes, etc	35 00
One box sleigh	25 00
Two light sleighs	25 00
One wagon jack	2 00
Forks and brooms	3 00
Pails	2 00
Brushes and combs	2 00
100 feet rubber hose	15 00
Feed bin	8 00
Patent stove	5 00
One pipe cutting machine	28 00
Two ⅝-inch tapping machines	200 00
One 1-inch tapping machine	150 00
One 2-inch tapping machine	75 00
One 3 to 4-inch tapping machine	175 00
One 6 to 12-inch tapping machine	300 00
Three derricks	75 00
Two sets blocks and ropes	30 00
Seven jack screws	31 00
Three worm blocks, 4.000 pounds	150 00
One grind stone and frame	10 00
Seventeen stop keys	34 00
Seven lanterns	6 00
Six pipe tongs	12 00
Eight pumps	40 00
One vise	5 00
Seven sledges	6 00
Two Well's lights	200 00
Two diaphragm pumps and suction hose	110 00
	$5.424 00

INVENTORY NO. 6.

HYDRANT ACCOUNT.

Six-inch Galvin hydrant, 1, at	$45 00	$ 45 00
Four-inch Galvin hydrant, 35, at	27 00	945 00
Hewes & Phillips, hydrants, 2, at	20 00	40 00
Hydrant soles, 12, at	4 00	48 00
Hydrant heads, 22, at	2 50	55 00
Hydrant corner irons, 10, at	12	1 20
		$1,134 20

INVENTORY NO 7.

SERVICE STOCK.

¾-inch corporation stops, 49, at	$ 65	$31 85
¾-inch curb stops, 56, at	80	44 80
1-inch corporation stops, 2, at	1 85	3 70
1-inch curb stops, 5, at	1 85	9 25
¾-inch lead pipe. 4,789 pounds, at	06	287 34
1-inch lead pipe, 112 pounds, at	06	6 72
¾-inch iron curb boxes, 33, at	1 45	47 85
1-inch iron curb boxes, 13, at	2 05	26 65
		$458 16

INVENTORY NO. 8.

BELLEVILLE FUEL AND STORES ON HAND DEC. 31, 1892.

FUEL.

$3,664\frac{1001}{2240}$ tons pea coal, at $2.80	$10,260 45

STORES.

15 pounds 1-16 inch sheet packing, at 50 cents	$7 50
10 pounds ⅛ sheet packing, at 50 cents	5 00
1 pound ¼ square packing, at 50 cents	50
5 pounds ⅜ square packing, at 50 cents	2 50
3 pounds ½ square packing, at 50 cents	1 50
6 pounds ⅝ square packing, at 50 cents	3 00
17 pounds ⅞ square packing, at 50 cents	8 50
4 pounds 1 inch square packing, at 50 cents	2 00
10 pounds ⅜ round packing, at 50 cents	5 00
4 pounds ¾ round packing, at 50 cents	2 00
30 pounds ⅝ round packing, at 50 cents	15 00
15 pounds 1⅛ round packing, at 50 cents	7 50
8 pounds 1⅛ combination packing, at 80 cents	6 40
4 pounds ½ combination packing, at 80 cents	3 20
5 pounds hemp, at 9 cents	45
45 pounds manhole gaskets, at 60 cents	27 00
½ pound manhole gaskets, at 60 cents	30
3 gauge glasses, at 25 cents	75
2 sheets emery cloth, at 5 cents	10
19 boxes potash, at 10 cents	1 90
10 bars soap, at 4 cents	40
2 scrubbers, at 50 cents	1 00
4 brooms, at 25 cents	1 00
72 balls of lamp wick, at 5 cents	3 60
5 pounds of waste, at 10 cents	50
4 gallons lard oil, at 62½ cents	2 50
50 gallons cylinder oil, at 80 cents	40 00
30 gallons kerosene, at 16 cents	4 80
50 pounds lead, at 5 cents	2 50
30 pounds Babbitt metal, at 15 cents	4 50
12 pounds nails, at 4 cents	48
	$10.421 83

INVENTORY NO. 9.

HIGH SERVICE AND STORES ON HAND DECEMBER 31, 1892.

FUEL.

79 tons coal, at $5 00	$395 00

STORES.

20 gallons lard oil, at 62½ cents	12 50
4 gallons cylinder oil, at 80 cents	3 20
14 bars soap, at 4 cents	56
2 boxes pearline, at 18½ cents	37
6 cans lye, at 46 cents	2 76
25 sheep emery cloth, at 5 cents	75
12 balls lamp wick, at 5 cents	60
16 gauge glasses, at 25 cents	4 00
10 pounds combination packing, at 80 cents	8 00
16 pounds Tuck's packing, at 51 cents	8 16
16 pounds ⅛ Tuck's sheet rubber packing, at 35 cents	5 60
4 pounds 1-16 in. Tuck's sheet rubber packing, at 50 cents	2 00
12 manhole gaskets, 5x7, at 60 cents	7 20
6 pounds waste, at 10 cents	60
12 manhole gaskets, 10x14, at 60 cents	7 20
12 gauge glass waste, at 20 cents per dozen	20
6 brooms, at 25 cents	1 50
	$460 20

INVENTORY NO. 10.

HIGH SERVICE PUMPING STATION.

Cold chisels	6
Monkey wrench, 12-inch	1
Monkey wrench, 24-inch	1
Monkey wrench, 6-inch	1
Metal saw,	1
Wood saw	1
Machine vise	1
Spanning wrenches	2
Solid wrenches	10
Stillson wrenches	2
Double wrenches	5
Scoop shovels	4
Crow bar	1
Hoe	1
Rake	1
Slice bars	2
Wheelbarrows	2

PLUGS.

1¼ inch	1

INVENTORY NO. 11.

TOOLS ON HAND AT BELLEVILLE PUMPING STATION DECEMBER 31, 1892.

Engine lathe	1
Shaper	1
Drill press	1
Machine vise	1
Pipe vise	1
Hammers	3
One ton differential block	
½ ton differential block	
Ratchets	2
Screw wrenches	3
Pipe stocks, taps and dies	2
Pipe cutters	2
Indicator	1
2½-inch hose	350 feet
¾-inch hose	100 feet
1-inch hose	100 feet
No. 4 shovels	7
Tube scrapers	2
Taps and dies	22
Machine taps	8
Screw plates	3
Twist drills	20
Breast drill	1
Sets can and trays	2
Oil pot	1
Hammers	1
No. 2 forge	1
Anvil	1
Sledge	1
Tongs	4
Hardy	2
Suages	2
Flatter	1
Shears	1
Surface plate	1
Augers	2
Hack frame saw	2
Calipers	2
Compass saw	1
Plyers	1
Sets blocks and fall ropes	2
Grind stone	1
Hand lamps	4
Wheelbarrows	5

Coal buckets .4 cwt.	2
Wheelbarrow scales	2
Clamps	4
Pipe tongs	20
Fire hooks	4
Slice bars	2
Fire hoes	4
Gas machines	1
Gas plyer	1
Lanterns	4
Axe	1
Pinch bars	2
Pick axe	1
FITTINGS ELLS.	
¼-inch	3
⅜-inch	5
½-inch	9
¾-inch	13
1¼-inch	8
1½ inch	10
2-inch	8
TEES.	
¼-inch	3
½-inch	2
⅜-inch	10
¾-inch	10
1-inch	3
1¼-inch	2
1½-inch	10
UNIONS.	
¼-inch	2
⅜-inch	3
¾-inch	5
1¼-inch	8
1½-inch	8
2-inch	1
NIPPLES.	
½-inch	5
¾-inch	3
1-inch	15
2-inch	20
2-inch globe vale	1

ANGLE VALVES.

¼-inch	2
½-inch	2
2½-inch	3

PLUGS.

¾-inch	2
2-inch	2

PIPE.

½-inch	30 feet
¾inch	10 feet
1-inch	10 feet
1¼-inch	15 feet
1½-inch	10 feet
2-inch	16 feet
1-inch brass	6 feet
¾ inch brass	6 feet

IRON.

⅜-inch, round	5 pounds
½-inch, round	66 pounds
⅝-inch, round	18 pounds
¾-inch, round	102 pounds
⅞-inch, round	160 pounds
1-inch, round	95 pounds
1⅛-inch, round	47 pounds
¾-inch, square	26 pounds
Machine and tool steel	25 pounds

MISCELLANEOUS.

Valve seats	6
Z springs	15
Steam damper	1
Brass castings	15 pounds
Nuts	12 pounds
⅝-inch bolts	6 pounds
Files	5 pounds
Pump valves	16
Air pump valves	23

INVENTORY NO. 12.

GENERAL INVENTORY OF STOCK AND OTHER SUPPLIES AND PROPERTY NOT INCLUDED IN FOREGOING INVENTORIES.

Picks	55
Pick handles	25
Crowbars	20
Shovels	50
Setts	25
Yarning irons	7
Hand chisels	12
Hand hatchets	11
Hammers	10
Sledges	5
Wrenches	12
Ladels	5
Set blocks	4
Set ropes	2
Derricks	4
Lead pots	2
Hydrant keys	12
Vise	1
Stop keys	17
Scrapers	2
Hose buts	4
Axes	4
Hand saws	1
Grind stones	2
Tool box wagon	2
Jack screws	11
Oil cans	5
Screw drivers	6
Pairs rubber boots	5
Steel wedges	9
Paving hammers	3
Water pails	4
Worm gear blocks	3
Chain slings	3
Gasoline lamps	4
Ladders	1
Lanterns	7

IRON PIPE SPIGOTS.

Two inch	10 feet
Three inch	65 feet
Four inch	21 feet
Six inch	578 feet
Ten inch	8 feet
Twelve inch	12 feet
Fourteen inch	11 feet
Sixteen inch	50 feet
Twenty inch	35 feet
Twenty-four inch	15 feet
Thirty inch	16 feet

IRON PIPE HUBS.

Two inch	5 feet
Three inch	10 feet
Four inch	95 feet
Six inch	20 feet
Eight inch	10 feet
Ten inch	8 feet
Twelve inch	25 feet
Sixteen inch	10 feet
Twenty inch	15 feet
Twenty-four inch	10 feet
Thirty inch	20 feet

Statement of Works of High Service Pumping Statements for the Year ending December 31st, 1892.

Month.	NUMBER OF HOURS IN OPERATION.			STROKES.			GALLONS.			TOTAL GALLONS.	COAL.		TOTAL COAL.	ASHES.
	No. 1.	No. 2.	No. 3.	No. 1.	No. 2.	No. 3.	No. 1.	No. 2.	No. 3.		Firing.	Banking.		
January	......	744.00	190.00	......	2,355,920	444,108	......	137,821,320	25.980,318	163,801,638	458,659	......	458,659	102,300
February	......	334.00	568.00	......	1,087,968	1,518,240	......	63,646,128	88,817,040	152,463,168	476,993	......	476,993	99,700
March	......	318.30	611.00	......	1,475,772	1,306,552	......	86,332,662	76,433,292	162,765,954	516,339	......	516,339	114,000
April	......	720.00	28.00	......	2,129,184	67,980	......	124,557,264	3,976,830	128,534,094	428,274	......	428,274	92,200
May	......	358.30	438.30	......	996,408	1,094,184	......	58,289,868	64,009,764	122,299,632	446,505	......	446,505	102,450
June	......	304.30	720 00	......	832,848	1,662,400	......	48,721,608	97,250,400	145,972,008	500,580	......	500,580	120,400
July	......	32.00	744.00	......	79,856	1,701,444	......	4,671,576	99,534,474	104,206,050	438,780	..	438,780	103,900
August	......	......	744.00	......	......	1,660,516	......	......	97,140,186	97,140,186	427,347	......	427,347	116,500
September	......	170.00	549.00	......	493,624	1,330,716	......	28,877,004	77,846,886	106,723,890	411,279	......	411,279	90,800
October	......	46.00	698.00	......	258,624	1,727,724	......	15,129,504	101,071,854	116,201,358	424,463	....	424,463	94,300
November	......	......	720.00	......	......	1,790,720	......	......	104,757,120	104,757,120	415,296	......	415,296	117,500
December	......	......	744.00	......	......	1,847,680	......	......	108,089,280	108,089,280	430,128	......	430,128	96,200
Total	......	3027.30	6754.30	......	9,710,204	16,152,264	......	568,046,934	944,907,444	1,512,954,378	5,374,643	......	5,374,643	1,250,250

HYDRANT STATEMENT.

FOR THE YEAR ENDING DECEMBER 31, 1892.

January,
February
March
April

May
June
July
August
Sept.
Oct.
Nov.
Dec.

Total

Total

STATEMENT OF WORKS OF HIGH SERVICE PUMPING STATEMENTS FOR THE YEAR ENDING DECEMBER 31ST, 1892.

Month.	NUMBER OF HOURS IN OPERATION.			STROKES.			GALLONS.			TOTAL GALLONS.	COAL.		TOTAL COAL.	ASHES.
	No. 1.	No. 2.	No. 3.	No. 1.	No. 2.	No. 3.	No. 1.	No. 2.	No. 3.		Firing.	Banking.		
January	......	744.00	190.00	......	2,355,920	444,108	......	137,821,320	25.980,318	163,801,638	458,659	......	458,659	102,300
February	......	334.00	568.00	......	1,087,968	1,518,240	......	63,646,128	88,817,040	152,463,168	476,993	......	476,993	99,700
March	......	318.30	611.00	......	1,475,772	1,306,552	......	86,332,662	76,433,292	162,765,954	516,339	......	516,339	114,000
April	......	720.00	28.00	......	2,129,184	67,980	......	124,557,264	3,976,830	128,534,094	428,274	......	428,274	92,200
May	......	358.30	438.30	......	996,408	1,094,184	......	58,289,868	64,009,764	122,299,632	446,505	......	446,505	102,450
June	......	304.30	720 00	......	832,848	1,662,400	......	48,721,608	97,250,400	145,972,008	500,580	......	500,580	120,400
July	......	32.00	744.00	......	79,856	1,701,444	......	4,671,576	99.534,474	104,206,050	438,780	..	438,780	103,900
August	......	......	744.00	......	......	1,660,516	......	......	97,140,186	97,140,186	427,347	......	427,347	116,500
September	......	170.00	549.00	......	493,624	1,330,716	......	28,877,004	77,846,886	106,723,890	411,279	......	411,279	90,800
October	......	46.00	698.00	......	258,624	1,727,724	......	15,129,504	101,071,854	116,201,358	424,463	....	424,463	94,300
November	......	......	720.00	......	......	1,790,720	......	......	104,757,120	104,757,120	415,296	......	415,296	117,500
December	......	......	744.00	......	......	1,847,680	......	......	108,089,280	108,089,280	430,128	......	430,128	96,200
Total	......	3027.30	6754.30	......	9,710,204	16,152,264	......	568,046,934	944,907,444	1,512,954,378	5,374,643	......	5,374,643	1,250,250

HYDRANT STATEMENT.

FOR THE YEAR ENDING DECEMBER 31, 1892.

January,
February
March
April

May
June
July
August
Sept.
Oct.
Nov.
Dec.

Total

Total

STATEM DECEMBER 31ST, 1892.

Month.	COAL.		TOTAL COAL.	ASHES.
	Firing.	Banking.		
January	458,659	......	458,659	102,300
February	476,993	......	476,993	99,700
March	516,339	. ....	516,339	114,000
April	428,274	......	428,274	92,200
May	446,505	......	446,505	102,450
June	500,580	......	500,580	120,400
July	438,780	..	438,780	103,900
August	427,347	......	427,347	116,500
September	411,279	......	411,279	90,800
October	424,463	....	424,463	94,300
November	415,296	......	415,296	117,500
December	430,128	......	430,128	96,200
Total	5,374,643	......	5,374,643	1,250,250

HYDRANT STATEMENT.

FOR THE YEAR ENDING DECEMBER 31, 1892.

(As a continuation to the list of Hydrants in the reports of 1883 to 1891).

LOW SERVICE.

No.		Pressure Pounds.
150*m*	Southeast corner Mt. Prospect and Sylvan Avenues......	40
150*n*	Summer Place, west side, south of Chester Avenue........	34
150*o*	Woodside Avenue, west side, north of Elwood Avenue....	27
195	Northeast corner Gouverneur and Ogden Streets	43
349	Northeast corner Hill and Washington Streets............	39
397	North Canal St., middle of block, bet. Cherry and River St's	36
398	Northwest corner North Canal and River Streets..........	37
447	Parkhurst Street, north side, east of Tichenor Avenue....	41
448	Northeast corner Tichenor and Broad Streets.............	37
449	Northeast corner Tichenor and Orchard Streets...	36
499	Northeast corner Frelinghuysen Avenue and Hunter Street	39
500	Northwest corner Frelinghuysen Avenue and Clifton Street	40
546	Northwest corner of Tichenor and Dawson Streets........	43
646	At Balbach's dock, opposite Van Buren Street............	39
689	Northwest corner Gotthardt Street and New York Avenue	35
750*a*	Northwest corner Westcott and Patterson Streets........	39
797	Southwest corner Waydell Street and Passaic Avenue. ..	31
798	Vincent Street, west side, south of Horatio Street..........	33
876	Northeast corner Miller Street and N. J. R. R. Avenue....	40

HIGH SERVICE.

1150*w*	Northeast corner Peddie Street and Sherman Avenue....	78
1191	Northeast corner Bleecker and Lock Streets.............	51
1250*b*	Northwest corner 2d Street and Central Avenue........	53

No.		Pressure Pounds.
1250*c*	Southwest corner Hudson Street and Sussex Avenue....	40
1300*c*	Northwest corner South 10th Street and Central Avenue....	17
1300*d*	Northwest corner North 6th and Dickerson Streets....	32
1450*l*	North 7th Street about 240 feet north of 4th avenue........	42
1500*i*	Northeast corner 5th Avenue and Lake Street...	46
1500*j*	Southwest corner Lake Street and 4th Avenue.............	45
1500*k*	Lake Street, west side, 550 feet north of 4th Avenue......	45
1597	Southwest corner Bergen Street and Avon Avenue........	57
1642	Northwest corner South 19th Street and Avon Avenue......	24
1643	South 19th Street, west side, south of Avon Avenue	25
1644	South 16th Street, west side, about 400 feet south of South Orange Avenue.......	27
1645	Southwest corner South 14th Street and South Orange Avenue	29
1646	Southwest corner South 14th Street and 14th Avenue... ...	25
1647	Southwest corner South 14th Street and 15th Avenue....	24
1648	Northwest corner South 14th Street and 16th Avenue....	25
1682	Southwest corner South 18th Street and 12th Avenue....	28
1683	South 18th Street, west side, middle of block, between 11th and 12th Avenues.................................	28
1684	Southwest corner South 18th Street and 11th Avenue......	30
1731	Northwest corner Ridgewood and Madison Avenues	54
1732	Northwest corner Jelliff Avenue and Waverly Place........	44
1773	Southwest corner Highland and Fredonia Avenues.........	30
1774	Southwest corner Highland Street and Grafton Avenue.....	32
1775	Highland Avenue, west side, about 200 feet north of Grafton Avenue....	30
1776	Northeast corner Montclair Avenue and First Street........	32
1777	First Street, west side, north of Montclair Avenue.........	32
1778	First Street, south of Montclair Avenue.....................	34
1779	Northwest corner Fredonia Avenue and Parker Street......	27
1780	Northwest corner Fredonia Avenue and Ridge Street......	31
1816	Northwest corner 5th Street and 2d Avenue...............	44
1817	Fifth Street, west side, about 200 feet south of 2d Avenue...	44
1818	Northeast corner 2d Aveuue and North 6th Street	44

VILLAGE OF BELLEVILLE

24	Courtland Street, west side, south of Jeroleman Street......	67
25	Stevens Street, west side, north of John Street...............	65
26	Southwest corner Washington Avenue and Jeroleman Street.,	49

HYDRANTS REMOVED.

43	Orange Street, north side, opposite High Street, to the Southeast corner of High and Orange Streets............ ..	36

HYDRANTS CHANGED FROM LOW TO HIGH SERVICE.

Old No.	New No.		
1	1250*d*	Northwest corner Orange and Boyden Streets	62
2	1250*e*	Southwest corner of M. and E. R. R. Avenue and Boyden Streets	61
5	1250*f*	Southwest corner 8th Avenue and Boyden Street	67
6	1250*g*	Southwest corner Nassau and Sheffield Streets	56
26	1250*h*	Northwest corner James and Boyden Streets	62
27	1250*i*	Northwest corner Sussex Avenue and Sheffield St.	58
30	1250*j*	Southwest corner Orange and Sheffield Streets.	59
46	1250*k*	Nassau Street, north side, near Nesbitt Street	50

SUMMARY OF HYDRANTS.

Low Service	822
High Service	798
Belleville Village	26
Belleville Pumping Station	3
Total	1,649

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1904

ANNUAL REPORT

OF THE

Committee on the Department of Water

OF THE

BOARD OF
Street and Water Commissioners

OF THE

CITY OF NEWARK, N. J..

For the Year Ending

DECEMBER 31ST, 1893.

VDLA

ANNUAL REPORT

OF THE

Committee on the Department of Water

OF THE

BOARD OF

Street and Water Commissioners

OF THE

CITY OF NEWARK, N. J.

For the Year ending December 31st, 1893.

OFFICERS AND MEMBERS.

HUGH C. HENDRY,	President
E. LIVINGSTON PRICE,	Counsel
CHARLES MARSH,	General Superintendent of Works
ENOS RUNYON,	Clerk of the Board

FERDINAND A. HAHN,	*Term expires with 1894*
SAMUEL KLOTZ, HUGH C. HENDRY,	*Term expires with 1895*
REUBEN TRIER, THOMAS HARLAN,	*Term expires with 1896*

Committee on the Department of Water.

THOMAS HARLAN, Chairman, REUBEN TRIER,
SAMUEL KLOTZ.

◆

NEWARK, N. J.:
THE W. H. SHURTS CO., PRINTERS, 874-876 BROAD STREET.
1894.

J.V.B.

Superintendent's Report.

To the Board of Street and Water Commissioners of the City of Newark, N. J.

GENTLEMEN :

I herewith respectfully submit the following report on the condition and operations of the Works of the Department of Water for the year ending December 31, 1893.

The Belleville Pumping Station.

No water for the supply of the city has been pumped out of the Passaic River during the year, the supply having been exclusively Pequannock water, but fires have been constantly kept banked under three boilers, and the pumps have been started from time to time, so as to keep them in good working order and ready for any emergency that might arise through a sudden failure of the new water supply.

The engines are in fair working order, and have needed but few repairs, and only such as could be attended to by the employes at the station. Nearly all the boiler settings have needed repairs, the boilers themselves having kept in good condition.

The High Service Pumping Station.

During the extreme cold days in January and February last, it became necessary on several occasions to pump for the Regular High Service in the daytime. A sort of "anchor ice" formed upon the top of the perforated mouth-piece of the upper outlet pipe, preventing a free flow of water into the stand-pipe, while the mouth-piece of the lower outlet pipe is, as has been already reported, entirely clogged up.

Special High Service pumping was continued up to 4 P. M., July 8th, when the pump was stopped, and the stop-gate in

Bank street connecting the 36-inch conduit of the new water supply with the Special High Service pipes opened. This mode of supplying the Special High Service has so far proved successful and satisfactory. On two occasions, once in July and once in August, the pumps were started and run for several hours in order to give the East Jersey Water Company opportunity to shut off the conduit for testing purposes.

Fires are kept banked at this pumping station and the engines worked in this way, as at the Belleville pumping station.

Pump Mains and Supply Mains—Nos. 1 and 2.

None of the four mains have needed repairs during the past year, but supply-main No. 1 has been exposed and partly uncovered by the grading of Clinton street, between River street and William street, in Belleville. It will be necessary during the coming spring to lower the pipe. The grade at which the pipe has been originally laid is such as to necessitate the disconnection of all the pipes and to relay them in accordance with the present grade of the street.

Belleville Reservoir.

This Reservoir is in as good a condition as ever, and has needed no repairs of any kind.

The Low Service Reservoir.

The repairs to the leak on the west side of the Reservoir made in 1892 have proved successful, as there have been no indications of a reappearance of the same.

Otherwise the Reservoir is in good condition.

The High Service Reservoir.

In December last the connection between the gatehouse of the new water supply on the bank fronting on South Orange Avenue and the Distributing System of the Regular High Service was made. This connection makes it possible to feed directly from the new water supply, and to shut off and empty the Reservoir for the purpose of cleaning the same, and also to put up a screen-tower at the mouth of the lower outlet pipe, which for a period of several years (through clogging) has been entirely useless.

The contract for the construction of the screen-tower was awarded to George A. Ohl, of this city.

Provisions have been made to connect the branch leading to the new gatehouse easterly with the new 20-inch pipe to South Orange avenue at Littleton avenue, and westerly with the old outlet pipes near the old gatehouse.

Distribution.

Several very important extensions to the distributing system have been made during the year, the Board having been enabled to make them through a special appropriation by the Common Council. A 20-inch main has been laid on the south side of South Orange avenue, from Littleton avenue to Jones street. At Littleton avenue the old main, which formerly served as pump-main, but after the introduction of the new water supply as main distributing feeder of the Regular High Service, is reduced from 24-inch to 20-inch. On the west side of Littleton avenue, and west of the 24-inch gate on the old main, a 20-inch patent connection was made, and the 20-inch pipe crossing the avenue to the south side laid, connecting the old and the new mains, with provision for extending the new main west, towards the Reservoir. At Jones street provision has been made to extend the new main east in South Orange avenue and south in Jones street.

A blow-off connecting with the sewer has been provided for the purpose of emptying the main.

A 10-inch main has been laid on the line of Clifton avenue, from Bloomfield avenue to the dead-end near Third avenue, and from Second avenue to Elwood avenue, to serve as a feeder for the "Forest Hill" district, which is growing very rapidly, and which up to then depended entirely on the 6-inch main on Mt. Prospect avenue. The pipe lies from Second avenue to Elmwood avenue, in private property, as that part of Clifton avenue has not yet been opened, and it was, therefore, necessary to obtain the consent of the different property owners, which was accomplished without difficulty.

A 24-inch pipe has been laid in Seventh avenue to connect a 36-inch new water supply conduit with the Low Service Reservoir. This pipe is not yet completed, as it will be necessary to wait until spring, when the Morris Canal, under which the pipe is to lay, will be emptied.

There have been laid during the year, 8 2595-5280 miles of pipe, of which 6 39-5280 miles in the city, and 2 2556-5280 miles in the suburbs. The sizes of the pipes are as follows:

1411	lineal	feet	of 24	Inch	Pipe.
2573	"	"	20	"	"
19	"	"	16	"	"
273	"	"	12	"	"
5896	"	"	10	"	"
21056	"	"	6	"	"
468	"	"	4	"	"
23	"	"	3	"	"
31719	"	Total in City.			

In Belleville there were laid	3155	lineal	feet	of 6-inch.
In Clinton Township were laid	1986	"	"	"
In S. Orange Twp. were laid	7975	"	"	"
Total in suburbs	13116	"	"	"

The total mileage of pipes connected with the works is 206 1442-5280 miles.

The number of new hydrants set during the year was 67, of which 14 on the Low Service, 30 on the High Service, 6 in the township of Clinton, 11 in the township of South Orange (Columbia Heights), and 6 in Belleville. The total number of hydrants connected with the works on December 31, 1893, was 1716, of which 836 on the Low Service, 828 on the High Service, 3 at the Belleville Pumping Station, 32 in Belleville village, 6 in Clinton Township and 11 in South Orange (Columbia Heights).

No serious breaks have occurred on the Distributing System during the year.

Consumption.

The number of new taps made during the year was 1,110—456 on the Low Service, and 654 on the High Service. The total number of taps on December 31 1893 was 27,565, of which 15,840 on the Low Service and 11,725 on the High Service.

It has not been possible to resume the usual consumption statistics which had been kept up until the end of 1891, inasmuch as the East Jersey Water Company authorities have not yet completed their system of measuring the water.

The use of water motors has almost entirely ceased, and no motors are in use any more for the purpose of running fans

Real Estate.

There have been no real estate sales made during the year.

Storage Reservoir.

The plan and specifications for the new Reservoir on the Irvington Road in South Orange have been completed, and will be presented to the Board for approval during the first week in January.

New Water Supply.

The supply of water furnished by the East Jersey Water Company during the year has been satisfactory, both as regards quantity and quality. The discoloration extending through several months of the previous year did not reappear.

Respectfully submitted,

CHARLES MARSH.

General Superintendent of Works.

Clerk's Report.

BOARD OF STREET AND WATER COMMISSIONERS
OF THE CITY OF NEWARK,
DEPARTMENT OF WATER

To the Honorable, the Mayor and Common Council of the City of Newark.

GENTLEMEN:—In accordance with Section 20 of the law creating the Board of Street and Water Commissioners of the City of Newark, which requires me to make a report of the receipts and expenditures at the close of each fiscal year, I herewith submit the following as my report of the Department of Water for the year ending December 31st, 1893.

Cash Balance, December 31st, 1892, - -	$185,780 95
Receipts from all sources, - - - - - -	679,601 13
	$865,382 08
Less Disbursements on all accounts, - -	694,570 32
Balance, Cash on hand and in banks, - - -	$170,811 76

ENOS RUNYON,

Clerk of the Board.

FINANCIAL STATEMENTS

BOARD OF STREET AND WATER COMMISSIONERS
OF THE CITY OF NEWARK,
DEPARTMENT OF WATER,
December 31st, 1893.

We, the undersigned, hereby certify that at the close of business this day we made a personal examination of the cash and securities of the Department of Water of this Board and found them to correspond with the accounts called for by the books of this Department.

HUGH C. HENDRY,
REUBEN TRIER,
FERDINAND A. HAHN.
Commissioners.

TRIAL BALANCE.

DECEMBER 31, 1893.

Cash			$170,811 76	
Coupon bond				$2,710,000 00
Registered				822,000 00
Coupons payable				85 00
National State Bank			85 00	
Real Estate	No.	1	26,964 15	
do	"	2	3,696 15	
do	"	3	2,545 48	
do	"	4	10 50	
do	"	5	750 00	
do	"	6	13,177 00	
do	"	7	500 00	
do	"	10	2,360 00	
do	"	11	10,456 86	
do	"	12	12,134 90	
do	"	13	7,292 65	
do	"	15	55 42	
do	"	16	6,000 00	
do	"	17	12,500 00	
do	"	18	1 00	
do	"	19	500 00	
do	"	20	100 00	
do	"	21	500 00	
do	"	22	3,290 04	
do	"	23	500 00	
do	"	24	4.880 00	
do	"	25	4,300 00	
do	"	26	2,660 00	
do	"	27	625 00	
do	"	28	3,550 00	
do	"	29	4.200 00	
do	"	30	9,196 00	
do	"	31	3,800 85	
do	"	32	9,380 00	
do	"	33	6,738 00	
do	"	34	9.000 00	
do	"	36	1,201 00	
do	"	37	1 00	
do	"	38	1,400 00	
do	"	39	4.250 00	
do	"	44	15,375 00	
do	"	46	3,713 02	
do	"	53	21.477 07	
do	"	54	9,393 89	
do	"	55	4,696 95	
do	"	56	11,883 64	
do	"	57	1,698 92	
Amount forward			$407,595 75	$3,532,085 00

Amount brought forward	$407,595 75	$3,532,035 00
Real Estate, No. 58	5,101 69	
do " 59	532 50	
do " 60	11,113 86	
do " 61	450 00	
do " 62	339 00	
do " 63	389 55	
Street Mains, General	1,401,208 86	
Regular High Service Feeder, No. 2, Sec. "B"	9,200 11	
Forest Hill Feeder	6,647 13	
General Supplies		263 94
Street Mains, Stock and Material	2.458 62	
Street Mains of 1893	20,008 16	
Belleville Pump House	56,309 39	
do Boiler House Extension	2,387 76	
do Pumping Engine, No. 1	55,909 73	
do do " 2	55 591 95	
do do " 3	78,918 29	
do do " 4	42,607 54	
New Boilers, Belleville	15,638 31	
New Chimney, do	10,057 24	
Engineer's & Firemen's Dwellings, Belleville	22.696 52	
River Wall, Dock and Basins	266.112 99	
Receiving Reservoir, Belleville	133,645 05	
Keeper's House, Receiving Reservoir, Belleville	3,192 60	
Driven Wells, Belleville	10,568 76	
Caisson Well, do	2,453 80	
Pump Main, No. 1	92,552 57	
do " 2	47,353 54	
Supply Main, No. 1	152,998 38	
do " 2	81,643 96	
do " 2, Section "A"	49.998 90	
Distributing Main, No. 2	63,612 00	
High Service Engine House	27.847 44	
do do Extension	5,417 70	
do Pumping Engine, No. 1	21,407 40	
do do " 2	21,630 22	
do do " 3	19,874 81	
do Reserve Pumps	12,609 26	
do Reservoir, South Orange Ave.	94,585 27	
New Boilers, Clifton Ave	6,349 82	
Low Service Reservoir, Seventh Ave	304,039 20	
Branch Brook do do	54,294 15	
New Supply Survey	8,555 83	
Twelfth Ward Feeder	7,151 67	
Extra High Service	33,704 66	
Amount forward	$3,726,761 94	$3,532,298 94

Amount brought forward	$3,726,761 94	$3,532,298 94
High Service & Belleville Machinery, Fixtures, &c	2,926 38	
Stable, Stock and Fixtures	5,424 00	
Office Furniture, Fixtures, &c	3,596 25	
Telephone Lines and Properties	1 200 00	
Hydrant Account	903 39	
Water Meter Account	20,758 60	
Bond and Mortgage	4,670 90	
Appropriation for Extension of Street Mains		20,000 00
High Service Pumping		28,227 05
Expense Account	13,742 60	
Salaries	16,119 99	
Inspection	11.996 00	
Engineering	4 844 58	
Interest, Coupon Bond	276,200 00	
do Registered Bond	44.155 00	
do General		246 88
Insurance	180 13	
Maintenance & Repairs, Telephone Lines	1,218 00	
do General Account	16,028 97	
do Reservoirs and Grounds	7,165 18	
do Pure Water	331 92	
New Water Supply	5,181 70	
Repairs, Street Mains	1,918 67	
do Hydrants	275 16	
do Real Estate, No. 1	158 38	
do Real Estate, Tenements & General	58 94	
Repairs, Engineers' and Firemen's Dwellings	64 50	
Repairs, Keeper's House, Belleville	8 50	
do Drinking Fountains	163 27	
do Water Meters	286 24	
do Belleville Pump House	393 45	
do High Service do "	94 44	
do High Service Pumps, Boilers and General	140 99	
Repairs, Tools	559 64	
Setting Meters	31 14	
Service Account		1,950 46
Plumbing Supplies	145 43	
Sinking Fund Account	129,000 00	
Special Appropriations		35 000 00
Loss and Gain	46 53	
Water Rent Income		521.538 17
Penalties, Fines, etc		2.524 10
Rents, Real Estate		322 50
Plumbers' Drafts		178 50
Amount forward	$4,296.749 91	$4,142,286 60

Amount brought forward	$4,296,749 91	$4.142,286 60
Collection Account, November Collection—Advance Water Rents	46,243 09	
Collection Account Services	3,824 04	
do do Fractional	442 26	
do do Miscellaneous	23,169 56	
Sundry Personal Accounts	34,085 54	
Surplus and Deficiency Account		296,314 69
High Service Fuel Account	7.657 42	
do Engine Stores	767 78	
do Engineer & Firemen's Wages	3,450 75	
Belleville Fuel Account	10,245 45	
do Engine Stores	387 39	
do Engineer and Firemen's Wages	6,578 10	
	$4,433,601 29	$4,433,601 29

STATEMENT A.

CONSTRUCTION ACCOUNT.

BELLEVILLE :		
Pump House	$ 56,309	39
Engineers' and Firemen's Dwellings	22,696	52
River Wall, Dock and Basins	266,112	99
Receiving Reservoir	133,645	05
Keeper's House	3,192	60
Driven Wells	10,568	76
Caisson Wells	2,453	80
New Boilers	15,638	31
New Chimney	10,057	24
Boiler House Extension	2,387	76
Pumping Engine, No. 1	55,909	73
do “ 2	55,591	95
do “ 3	78,918	29
do “ 4	42,607	54
NEWARK :		
High Service Engine House	27,847	44
do do Extension	5,417	70
New Boilers, Clifton Ave	6,349	82
High Service Pumping Engine, No. 1	21,407	40
do do “ 2	21,630	22
do do “ 3	19,874	81
High Service Reserve Pumps	12,609	26
do Reservoir	94,585	27
Branch Brook Reservoir	54,294	15
Low Service Reservoir	304,039	20
MAINS :		
Street Mains, General	1,421,217	02
Pump Main, No. 1	92,552	57
do “ 2	47,358	54
Supply Main, No. 1	152,998	38
do “ 2	81,643	96
do “ 2, Section A	49,998	90
Twelfth Ward Feeder	7,151	67
Extra High Service	33,704	66
Distributing Main, No. 2	63,612	00
Regular High Service Feeder, No. 2, Section B	9,200	11
Forest Hill Feeder	6,647	13
	$3,290,225	14

STATEMENT B.

GENERAL STOCK AND PROPERTY.

Belleville Fuel Account	$ 8,906	64
do Engine Stores	201	80
High Service Fuel Account	118	75
do Engine Stores	80	93
General Supplies	234	35
Street Mains, Stock and Material	4,452	41
High Service and Belleville Machinery, Stock & Fixtures	2,926	38
Stable, Stock and Fixtures	5,619	49
Office Furniture and Fixtures	3,756	25
Insurance	12	00
Hydrant Account	849	72
Water Meter Account	20,758	60
Bond and Mortgage	4,670	00
Service Account	553	75
Real Estate, General	254,675	59
	$307,816	66

STATEMENT C.

ACCOUNTS DUE THE BOARD.

Collection	Account,	Advance Water Rents	$46,243	09
"	"	Fractional	442	26
"	"	Special	849	61
"	"	Building	39	28
"	"	Measured	9,255	81
"	"	Sprinklers	125	42
"	"	Arrears	12,899	44
"	"	Services	3,824	04
Sundry Personal Accounts			34,085	54
			$107,764	49

STATEMENT D.

MAINTENANCE AND REPAIRS.

Maintenance, Telephone Lines	$1,218	00
do General	16,028	97
do Reservoirs and Grounds	7 165	18
do Pure Water	331	92
do New Water Supply	5,181	70
Repairs, Street Mains	1,918	67
do Hydrants	275	16
do Drinking Fountains	163	27
do Real Estate, No. 1	158	38
do do Tenements and General	58	94
do Engineers' and Firemen's Dwellings	64	50
do Keeper's House, Belleville	8	50
do Water Meters	286	24
do Belleville Pump House	393	45
do High Service Pump House	94	44
do High Service Pumps, Boilers and General	140	99
do Tools	559	64
Setting Meters	31	14
Plumbing Supplies	145	43
	$34,224	52

ASSETS AND LIABILITIES.

	ASSETS.	LIABILITIES.
Construction	$3,290,225 14	
General Stock and Property	307,816 66	
Anticipated Assets	107,764 49	
Coupon Trust Fund	35 00	
Cash	170,811 76	
Coupon Bond Account		$2,710,000 00
Registered " "		822,000 00
Coupons Payable		35 00
Plumbers' Drafts		178 50
Loss and Gain.		344,439 55
	$3,876,653 05	$3,876,653 05

STATEMENT.

FUND FOR THE CONSTRUCTION OF A STORAGE RESERVOIR.

CASH.

	DR.	CR.
Balance in Banks, December 31st, 1892	$4,307 60	
From Interest on Deposits	299 07	
" " " Investments	9,175 00	
" Sale Newark City Water Bonds	10,350 00	
" " of Hay and Stone	191 00	
For House Rent	20 00	
Disbursements for the year		$5.553 69
Balance in Bank, December 31st, 1893		18,788 98
	$24,342 67	$24,342 67

TRIAL BALANCE.

Storage Reservoir Fund Account		$206,788 98
Bond Account	$188,000 00	
Cash	18,788 98	
	$206,788 98	$206.788 98

SECURITIES.

Registered Newark City Water Bond, No. 9	$50,000 00
" " " " " No. 10	6,000 00
" " " " " No. 28	50,000 00
" " " " " No. 86	15,000 00
" " " " " No. 87	12,000 00
" " " " " No. 88	15,000 00
" " " " " No. 75	40,000 00
	$188,000 00

DETAILED RECEIPTS AND EXPENDITURES FROM JANUARY 1, 1893 to JANUARY 1, 1894.

RECEIPTS.

Balance on hand Jan'y 1, 1893.		$185,780 95	
Advance Water Rent Collection	$349,205 02		
Fractional " "	2,135 40		
Miscellaneous " "	147,832 55		
Hose " "	6,332 00		
Service Collection Account....	16,727 55		
Sales Service Account.........	66 00		
" Iron Pipe...............	2 00		
" Scale....................	2 50		
" Real Estate..............	1,800 00		
Rent " "	322 50		
Interest on Mortgages.........	516 00		
Time Loans....................	65,000 00		
Special Appropriation from City of Newark.............	35,000 00		
Appropriation on Account of Extension of Street Mains from City of Newark..	20,000 00		
Penalties and Fines...	2,524 10		
Sundry Personal Accounts....	32,135 51		
		$679,601 13	
			$865 382 08

EXPENDITURES—CONSTRUCTION.

Labor, laying street mains, 1893	$6,650 55		
Cartage......................	183 00		
		$6,833 55	
STREET MAINS, STOCK AND MATERIAL.			
Hardware Supplies...	105 66		
Castings	3 411 39		
Wood..	51 00		
Pig Lead......	2,839 50		
Freight and Car Service......	19 08		
Oil, &c......................	10 91		
Iron Pipe....................	18,601 50		
Lumber......................	146 67		
Yarn.........................	5 94		
Machine Work................	62 61		
Clay	6 75		
Masons' Supplies.....	17 00		
Gates........................	1,800 00		
Expense	3 40		
		27,081 41	
Amount forward...........			$33,914 96

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward. ...			$33,914 96
GENERAL SUPPLIES.			
Hardware Supplies	$12 80		
Coke	14 70		
Oil, &c	5 40		
Lumber	55 84		
		$88 74	
MAINTENANCE GENERAL.			
Coal	11 00		
Lumber	6 74		
Cartage	12 00		
Mason Work	48 19		
Beams and Channels	70 95		
Freight	21 60		
Casing Water Main	147 28		
Inspector	52 00		
Machine Work	10 00		
Stove, Pipe and Fittings	3 83		
Labor	7,295 79		
		7,679 38	
MAINTENANCE OF RESERVOIRS AND GROUNDS.			
Coal	123 30		
Oil, Paint, Glass and Putty	75 86		
Rubber Boots	4 00		
Hardware Supplies	47 80		
Blacksmith	27 80		
Machine Work	5 05		
Clay	26 25		
Screen Tower (acco'nt contract)	433 40		
Repairs, Harness	10 50		
Stable Supplies	29 50		
Hay	24 40		
Fence Pickets	3 75		
Lumber	28 68		
Flower Pots	6 50		
Sign	7 00		
Rose Plants	9 00		
Plumbing	6 40		
Stove, Pipe and Setting	25 95		
Mason Work	28 22		
Expense	3 20		
Salary	900 00		
Labor	4,419 10		
		6,245 66	14,013 78
Amount forward			$47,928 74

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward.....			$47,928 74
MAINTENANCE PURE WATER.			
Professional Legal Expense....	248 04		
Labor....	83 88	$331 92	
MAINTENANCE TELEPHONE LINES			
Rent of Telephones............	18 00	1,218 00	
REPAIRS, REAL ESTATE, NO. 1.			
Hardware Supplies............	1 00		
Lumber........................	38 16		
Mason Work..................	27 59		
Iron Gate.....................	40 00		
Oil, &c................	90		
Labor.........................	78 32	185 97	
REPAIRS, REAL ESTATE, TENEMENTS AND GENERAL.			
Plumbing.......	14 51		
Lumber........................	7 28		
Labor.........................	9 56	31 35	
REPAIRS BELLEVILLE PUMP HOUSE.			
Slate Roofing..................	133 65		
Plumbing......................	135 74		
Mason Work..................	69 59		
Oils, Paint, &c...............	14 03		
Labor.........................	40 44	393 45	
REPAIRS, ENGINEERS' AND FIREMEN'S DWELLINGS.			
Plumbing..	47 00		
Lumber...............	17 33		
Hardware Supplies...........	17	64 50	
REPAIRS, KEEPER'S HOUSE, BELLEVILLE.			
Repairs to Pump.............	8 50	8 50	2,233 69
Amount forward.......... ...			$50,162 43

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED

Amount brought forward.....			$50,162
REPAIRS, HIGH SERVICE PUMP HOUSE.			
Lumber.....................	$30 81		
Labor........................	63 63	$94 44	
REPAIRS, HIGH SERVICE PUMPS, BOILERS AND GENERAL.			
Machine Work.	41 28		
Mason Work.................	95 41		
Covers for Steam Traps.... ...	4 30	140 99	
REPAIRS, STREET MAINS.			
Lumber................... ...	15 21		
Mason Supplies...............	8 53		
Boiler Couplings and Tubes....	12 00		
Cab Hire....................	7 50		
Wood.	17 00		
Oil, &c......................	75		
Cartage............	19 50		
Expense....................	14 90		
Labor	1,485 37	1,580 76	
REPAIRS, TOOLS.			
Rubber Boots................	94 50		
Blacksmith	209 15		
Hardware Supplies...........	203 67		
Suction Hose................	38 10		
Stop Keys..................	11 72		
Expense	25		
Labor........................	2 25	559 64	
REPAIRS, WATER METERS.			
Repairs.....	858 36		
Hardware Supplies......... ...	40		
Expressage..................	111 00		
Labor.......	2 25	972 01	
REPAIRS, HYDRANTS.			
Lumber.............	67 05		
Machine Work........	124 18		
Stems.	7 20		
Hardware Supplies...	38		
Expense....................	1 10		
Labor.................... ...	311 75	511 66	3,859 5
Amount forward.............			$54,021 9

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward			$54,021 93
REPAIRS, DRINKING FOUNTAINS.			
Plumbing	$99 69		
Supplies, Ball and Stop	4 50		
Hardware	1 56		
Labor	63 30	$169 05	
WATER METER ACCOUNT.			
Meters	4,861 12		
Expressage	38 42		
Hardware Supplies	4 98	4,904 52	
BELLEVILLE ENGINEERS' AND FIREMEN'S WAGES.			
Repairs, Harness	6 90		
Hay	64 22		
Horseshoeing	36 50		
Hardware	2 22		
Salaries	5,703 00		
Labor	840 26	6,653 10	
BELLEVILLE ENGINE STORES.			
Hardware Supplies	29 28		
Oil, &c	81 85		
Gasoline	104 90		
Repairs Gas Machine	5 24		
Expense	4 74	226 01	
HIGH SERVICE FUEL ACCOUNT AND WAGES.			
Coal	7,243 42		
Wood	19 00		
Salaries	7,100 00		
Labor	1,350 75	15,713 17	
HIGH SERVICE ENGINE STORES.			
Hardware Supplies	87 99		
Oil, &c	337 72		
Gas	240 59		
Tube Scraper	4 00		
Ice	32 28	702 58	28,368 43
Amount forward			$82,390 36

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward.....			$82,390 36
SETTING METERS.			
Hardware Supplies............	$2 75		
Castings......................	7 88		
Labor.......	20 51	$31 14	
PLUMBING SUPPLIES.			
Supplies........................	134 33		
Hardware.....................	2 15		
Oil, &c	8 95	145 43	
NEW WATER SUPPLY.			
Rain Gauges. &c..............	107 70		
Professional Services..	3,014 00		
Sundry Expenses..............	500 00		
Salary.............	1,560 00	5,181 70	
HYDRANT ACCOUNT.			
Hardware Supplies............	6 19		
Hydrants, Stops and Boxes....	3,550 00	3,556 19	
SERVICE ACCOUNT			
Plumbers' Drafts..............	31 50		
Hardware Supplies............	172 51		
Lead Pipe.......	3,141 15		
Corporation and Curb Stops...	1,859 10		
Stand Pipes.	2,145 79		
Barber Asphalt Paving Co.....	42 00		
Oil, &c.	22 88		
Cartage..	99 00		
Gate and Nipple..............	4 38		
Machine Work.............	44 05		
Expense	12 16		
Contract Pat. Tapping Machine	600 00		
Salaries...	4,300 00		
Labor.	8,815 21	21,289 73	
ENGINEERING.			
Stationery Supplies............	46 06		
Livery..................	41 00		
Hardware Supplies............	68		
Cabinet, Cases and Drawing Boards.....................	160 00		
Repairs, Level................	3 00		
Satchel..........	2 55		
Expense..........	74 60		
Salaries......................	3,700 00		
Labor	816 69	4,844 58	35,048 77
Amount forward.........			$117,439 13

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward			$117,439 18
INSPECTION.			
Salaries	$ 1,700 00		
Labor	10,296 00	$11,996 00	
REGULAR HIGH SERVICE FEEDER NO. 2.			
Contract	14,451 92		
Cartage	13 00		
Labor	482 71	14,947 63	
FOREST HILL FEEDER.			
Cartage	6 00		
Labor	2,070 14	2,076 14	
INTEREST, FUNDED DEBT.			
Amount of Registered Bond Interest due, 1893	44,155 00		
Amount of Coupon Bond Interest due, 1893	276,200 00	320,355 00	
COMMISSIONERS OF THE SINKING FUND OF 1864.			
Two per cent. on $2,450,000 of Funded Debt Water Bonds, due February 1st, 1893	49,000 00		
Two per cent. on $4,000,000 of New Water Supply Bonds, due May 1st, 1893	80,000 00	129,000 00	
SALARIES.			
Office Salaries	16,119 99	16,119 99	
MISCELLANEOUS ACCOUNTS.			
Time Loans Paid	65,000 00		
Interest on Time Loans	269 12		
Fund for the Construction Storage Reservoir	3,604 21		
Insurance	18 00		
Loss and Gain Water Rent Refunded	2 50	68,893 83	563,388 59
Amount forward			$680,827 72

DETAILED RECEIPTS AND EXPENDITURES—CONTINUED.

Amount brought forward.....			$680,827 7
EXPENSE ACCOUNT.			
Hardware Supplies...........	15 55		
Coal.........	173 30		
Lumber......................	6 89		
Advertising..................	672 15		
Repairs, Vehicles......	216 62		
Subscription Engineering Record... ,........	10 00		
Stationery and Printing.......	1,698 38		
Horseshoeing.................	151 07		
Telephone Tolls and Messenger Service.....................	40 92		
Carrots..................... ...	11 25		
Stove, Pipe, &c...............	7 55		
Oils, Paints, Glass and Putty, &c	6 39		
Gas..............	151 84		
Livery..........	168 50		
Hay.........	268 26		
Repairs, Harness...	93 10		
Stable Supplies...	549 27		
Rubber Stamps...............	11 10		
Soap...	8 45		
Ice...	64 65		
Senate and Assembly Bills....	25 00		
Carriage................. ...	275 75		
Horse.......................	350 00		
Typewriting..........	3 41		
Ladder	10 00		
Cab Hire..	5 50		
Plumbing....................	36 25		
Egyptian Powder.....	4 50		
Copies of Laws..............	35 50		
Chairs	6 00		
Putting up Awnings..........	4 49		
Chairs	3 00		
Professional Services..........	128 00		
Expressage	24 60		
Directories...................	13 50		
Disinfectant Machine..........	10 00		
Expert Accountant...........	1,447 50		
Dating Stamps and Pads.......	11 50		
Sundry Expense	1,733 47		
Labor........................	5,289 39	13,742 60	13,742 6
Total Expenditures 1893.......			$694,570 3
Balance on Hand January 1st. 1894..........			170,811 7
			$865,382 0

STATEMENT OF STREET MAINS LAID DURING THE YEAR ENDING DECEMBER 31, 1893.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
Apr. 1893	*Verona Ave., from Washington Ave., east.*	249		
	21 6-inch pipe		$88 20	
	1 6-inch Galvin stop		14 50	
	1 Stop box, frame and cover.		5 00	
	1 4-inch pipe		2 78	
	1 6x4 single branch		7 21	
	1 6-inch plug		1 08	
	335 pounds lead		16 75	
	Yarn and wood, &c		3 00	
	Labor and cartage		57 41	
				$195 93
Apr. 1893	*South 14th St , from Gould Ave. to 9th Ave., and in 9th Ave., from 14th to 15th St., and in South 15th St. north 150 feet.*	1,241		
	104 6 inch pipe		436 80	
	4 6-inch Galvin stops		58 00	
	4 Stop boxes, frames & covers		20 00	
	4 4-inch pipe		11 12	
	4 6x4 single branches		28 66	
	2 6x6 double branches		19 67	
	4 6-inch plugs		4 24	
	1 6-inch $\frac{1}{8}$ bend		4 87	
	1 6-inch beveled hub		3 22	
	1200 pounds pig lead		60 00	
	Yarn and coke, &c		5 00	
	Labor and cartage		314 89	
				965 97
Apr. 1893	*5th Ave., from N. 9th to N. 11th St.*	304		
	26 6-inch pipe		109 20	
	1 6-inch Galvin stop		14 50	
	1 Stop box, frame and cover.		5 00	
	400 pounds lead		20 00	
	Yarn and wood, &c		3 00	
	Labor and cartage		61 68	
				213 38
Apr. 1893	*Vincent St., from present terminus south of Horatio St. to a point about 50 ft south.*	49		
	4 6-inch pipe		16 80	
	1 6-inch sleeve		2 83	
	2 6-inch hubs		70	
	2 4-inch hubs		48	
	75 pounds lead		3 75	
	Yarn and wood, &c		2 00	
	Labor and cartage		17 99	
				44 55
Apr. 1893	*Lincoln Ave. from Ellwood Ave. to Carteret St.*	365		
	30 6 inch pipe		126 00	
				126 00
	Amount forward			$1,545 83

STATEMENT OF STREET MAINS LAID.—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward...			$1,545 83
Apr. 1893	1 6-inch pat. stop............		$16 00	
	1 Stop box, frame and cover.		5 00	
	2 6-inch Galvin stops........		29 00	
	2 Stop boxes, frames & covers		10 00	
	2 6-inch ⅛ bends............		8 36	
	1 6x6 double branch.........		9 38	
	2 6-inch plugs................		2 17	
	1 6 to 4 reducer..............		3 74	
	425 pounds lead...............		21 25	
	Yarn and wood, &c.............		2 00	
	Labor and cartage.......		76 24	
				183 14
Apr. 1893	*Madison Ave., from Badger to Ridgewood Ave.*	308		
	26 6-inch pipe................		109 20	
	2 6 inch Galvin stops........		29 00	
	2 Stop boxes, frames & covers		10 00	
	1 6x6 double branch.........		9 69	
	2 6-inch plugs..............		2 17	
	384 pounds lead..............		19 20	
	Yarn and coke.............. ..		2 00	
	Labor and cartage.............		63 19	
				244 45
Apr. 1893	*Jefferson Street, from Chestnut to South Street.*	1,076		
	90 6-inch pipe................		378 00	
	3 6-inch Galvin stops........		43 50	
	3 Stop boxes, frames & covers		15 00	
	2 4-inch pipe...............		5 56	
	2 6x6 double branches.......		17 22	
	2 6x6 single branches........		16 06	
	2 6x4 single branches.... ...		14 07	
	2 6-inch beveled hubs........		7 28	
	7 6-inch plugs.......		7 59	
	1,359 pounds lead........		67 95	
	Yarn and coke, &c.		5 00	
	Labor and cartage......		258 41	
				835 64
Apr. 1893	*Seventh Ave., from Sheffield to Garside Street.*	431		
	36 6-inch pipe................		151 20	
	2 6-inch Galvin stops........		29 00	
	2 Stop boxes, frames & covers		10 00	
	1 6x6 single branch..........		7 07	
	1 4-inch ¼ bend.............		1 85	
	1 6 to 4-inch reducer.........		3 81	
	Lead, 438 pounds..............		15 33	
	Yarn and wood, &c............		5 00	
	Labor and cartage......		106 62	
				329 88
	Amount forward...........			$3,138 94

STATEMENT OF STREET MAINS LAID.—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward...			$3,138 94
Apr. 1893	*Peshine Ave., from Avon Ave., south about 288 feet.*	288		
	24 6-inch pipe................		$100 80	
	2 6-inch Galvin stops........		29 00	
	2 6-in. stop boxes, frames, &c		10 00	
	1 4-inch pipe		3 56	
	1 6x4 single branch..........		7 14	
	1 6x6 double branch.........		9 91	
	3 6-inch plugs...............		3 26	
	423 pounds lead...............		21 15	
	Yarn and coke, &c.......... ..		2 00	
	Labor and cartage.............		96 99	
				283 81
Apr. 1893	*West Kinney Pl., from dead end, south 146 feet from West Kinney St.*	146		
	12 4-inch pipe...............		33 36	
	2 3-inch pipe...............		4 20	
	1 4 inch hydrant............		27 00	
	1 4 to 3-inch reducer........		2 10	
	1 4x4-inch single branch.....		3 08	
	2 3-inch sleeves..		2 71	
	1 4-inch plug...............		1 08	
	1 3 inch pat. stop............		9 00	
	1 6-in. stopbox, frame & cover		5 00	
	189 pounds lead...............		9 45	
	Yarn and coke, &c.		3 00	
	Labor and cartage.............		33 12	
				133 10
May 1893	*Avon Ave., from South 14th to South 13th St.*	298		
	25 6-inch pipe		105 00	
	2 6-inch Galvin stops........		29 00	
	2 6 in. stop boxes, frames, &c.		10 00	
	2 6x6 double branches.......		19 56	
	4 6 inch plugs..............		4 20	
	350 pounds lead..........		17 50	
	Yarn and coke, &c.......... ...		2 00	
	Labor and cartage.............		63 60	
				250 86
May 1893	*South 13th St., from Avon Ave. south about 272 feet.*	272		
	23 6-inch pipe.....		96 60	
	1 6-inch Galvin stop.........		14 50	
	1 Stop box. frame and cover.		5 00	
	1 4-inch pipe........... ...		2 78	
	1 6x4 single branch...... ..		7 14	
	1 6-inch plug...............		1 23	
	340 pounds lead		17 00	
	Yarn and coke, &c............		2 00	
	Labor and cartage............		60 51	
				206 76
	Amount forward..........			$4,013 47

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward...			$4,018 47
May 1893	*South 18th Street, from Springfield Avenue to City line.*	1,219		
	103 6-inch pipe............ ...		$432 60	
	3 6-inch Galvin stops........		43 50	
	3 Stop boxes, frames & covers		15 00	
	2 4-inch pipe................		5 56	
	2 6x4-inch single branches...		14 42	
	1 6x6-inch " branch.....		7 07	
	1 6x6-inch double "		10 18	
	1 6-inch sleeve..............		2 91	
	1 6 inch beveled hub.........		3 50	
	4 6-inch plugs..............		4 20	
	1,350 pounds lead........		67 50	
	Yarn, coke, &c................		5 00	
	Labor and cartage......		324 07	
				935 51
May 1893	*South 11th Street, from 17th to 18th Avenue.*	627		
	53 6 inch pipe...............		222 60	
	1 6-inch Galvin stop...		14 50	
	1 Stop box, frame and cover.		5 00	
	2 4 inch pipe...............		5 56	
	2 6x4-inch single branches...		14 45	
	1 6-inch beveled hub.........		3 85	
	1 6 inch plug..............		1 08	
	680 pounds lead..............		34 00	
	Yarn and coke................		3 00	
	Labor and cartage..........		178 17	
				482 21
May 1893	*Alyea Street, from Elizabeth to Darcy Street.*	530		
	45 6-inch pipe.......		189 00	
	2 6-inch Galvin stops...		29 00	
	2 Stop boxes, frames & covers		10 00	
	1 4-inch pipe................		2 78	
	1 6x4-inch single branch.....		7 18	
	1 6 to 4-inch reducer.........		3 32	
	1 4 inch sleeve.....		1 82	
	637 pounds lead.......		31 85	
	Yarn, coke, &c................		3 00	
	Labor and cartage............		100 59	
				378 54
	Amount forward...........			$5,809 73

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward..			$5,809 73
May 1893	*Read Street, from Providence to Market Street.*	768		
	65 6-inch pipe...............		$273 00	
	2 6-inch Galvin stops........		29 00	
	2 Stop boxes, frames & covers		10 00	
	2 4-inch pipe.......... .		5 56	
	2 6x4-inch single branches...		14 94	
	1 6x6-inch " " ..		7 07	
	1 6-inch sleeve.............		2 94	
	900 pounds lead....		45 00	
	Yarn, coke, &c............ ...		5 00	
	Labor and cartage..		176 55	
				569 06
June 1893	*Ridge St. and Montclair Ave., Mains in Ridge Sreet from Verona to Montclair Ave. and in Montclair Avenue, Ridge to Parker Street.*	1,172		
	99 6-inch pipe...............		414 81	
	3 6-inch Galvin stops........		43 50	
	3 Stop boxes, frames & covers		15 00	
	3 4-inch pipe...............		8 34	
	3 6x4-inch single branches ..		23 11	
	1 6x4 inch double branches..		9 98	
	1 4x4-inch single branch...		3 43	
	1 6 to 4 inch reducer........		3 85	
	1,253 pounds lead		62 65	
	Yarn and coke, &c............		5 00	
	Labor and cartage.............		313 56	
				903 23
June 1893	*Third St., from present terminus north 50 feet.*	49		
	4 6-inch pipe....		16 76	
	2½ ft. 6-inch hub..........		87	
	75 pounds lead..............		3 75	
	Yarn and coke.......		50	
	Labor and cartage............		11 99	
				33 87
June 1893	*Sixth Avenue, from Clifton to Mt. Prospect Avenue.*	224		
	19 6-inch pipe......		79 61	
	1 6 to 4-inch reducer........		4 13	
	238 pounds lead..............		11 90	
	Yarn, coke, &c		1 00	
	Labor and cartage...........		77 94	
				174 58
	Amount forward....			$7,490 47

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward..			$7,490 47
June 1893	*Grafton Avenue, from Aqueduct to Ridge Street.*	499		
	42 6-inch pipe		$175 98	
	1 6-inch Galvin stop		14 50	
	1 Stop box, frame and cover.		5 00	
	2 4-inch pipe		5 56	
	2 6x4-inch single branches		14 66	
	1 6x6-inch double branch		10 15	
	3 6-inch plugs		3 25	
	569 pounds lead		28 45	
	Yarn, coke, &c		3 00	
	Labor and cartage		124 64	
				385 19
June 1893	*Ninth Avenue, from 14th to 13th Street.*	269		
	23 6-inch pipe		96 37	
	1 6 inch Galvin stop		14 50	
	1 Stop box frame and cover.		5 00	
	287 pounds lead		14 35	
	Yarn and coke		1 00	
	Labor and cartage		87 57	
				218 79
June 1893	*Aqueduct Street, from 6th Ave. south about 438 feet.*	438		
	37 6-inch pipe		155 06	
	1 6-inch Galvin stop		14 50	
	1 Stop box, frame and cover.		5 00	
	1 6x6-inch double branch		10 04	
	1 6x4-inch single branch		7 28	
	1 4-inch pipe		2 78	
	3 6-inch plugs		3 25	
	479 pounds lead		23 95	
	Yarn, coke, &c		3 00	
	Labor and cartage.		105 65	
				330 51
June 1893	*Sherman Avenue, Peddie to Concord Street.*	492		
	41 6-inch pipe		171 79	
	1 6 inch Galvin stop		14 50	
	1 6-inch stop box, frame and cover		5 00	
	1 4-inch pipe		2 78	
	1 6x4-inch single branch		7 35	
	1 6-inch plug		1 05	
	471 pounds lead		23 55	
	Yarn, coke, &c		3 00	
	Labor and cartage		110 58	
				339 60
	Amount forward			$8,764 56

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward..			$8,764 56
June 1893	*Ann St., from New York Ave. about 350 feet south.*	368		
	31 6 inch pipe		$131 20	
	1 6 " Galvin stop		14 50	
	1 Stop box, frame and cover		5 00	
	1 4-inch pipe		2 78	
	1 6x4 single branch		7 31	
	1 6-inch plug		1 08	
	1 6 to 4-inch reducer		3 99	
	342 lbs. lead		17 10	
	Yarn, coke, &c		3 00	
	Labor and cartage		73 53	
			259 49	
	Cr. 31 6.inch pipe, charge Street Mains 1894		131 20	128 29
June 1893	*Peshine Ave., from point south of Avon Ave. about 300 ft. south.*	306		
	26 6-inch pipe		108 94	
	1 4-inch pipe		2 78	
	1 6x4 inch single branch		7 42	
	293 lbs. lead		14 65	
	Yarn, coke, &c		2 00	
	Labor and cartage		100 66	236 45
July 1893	*Hunterdon St., from Springfield to 17th Ave.*	638		
	54 6-inch pipe		226 80	
	2 6 " Galvin stops		29 00	
	2 6 Stop boxes, frames and covers		10 00	
	1 6x4 single branch		7 31	
	1 6-inch beveled hub		3 33	
	1 4-inch pipe		2 78	
	679 lbs. lead		33 95	
	Yarn, coke, &c		3 00	
	Labor and cartage		147 08	463 25
	Amount forward			$9,592 55

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward			$9,592 5
July 1893	*Fourteenth Ave. and 15th Street Mains, from South Orange Ave., through South 15th St. to 14th Ave., and through 14th Ave. to South 14th St.*	952		
	81 6-inch pipe		$340 20	
	1 6x6-in. pat. sleeve and stop		26 60	
	2 6-inch Galvin stops		29 00	
	2 6-inch stop boxes, frames and covers		10 00	
	1 4-inch pipe		2 78	
	1 6x4-inch single branch		7 31	
	1 6x6-inch double branch		9 13	
	951 pounds lead		47 55	
	Yarn and coke		5 00	
	Labor and cartage		238 27	
				715 84
July 1893	*South 10th St., from Central to 11th Ave.*	847		
	72 6-inch pipe		302 40	
	2 6-inch Galvin stops		29 00	
	2 6-inch stop boxes, frames, covers		10 00	
	1 4-inch pipe		2 78	
	1 6x4-inch single branch		7 35	
	1 6x6-inch double branch		8 64	
	2 6-inch plugs		2 17	
	810 pounds lead		40 50	
	Yarn, coke, &c		5 00	
	Labor and cartage		223 39	
				63
July 1893	*Fifth Ave., from North 5th to North 3d St.*	539		
	44 6-inch pipe		184 80	
	3 6-inch Galvin stops		43 50	
	3 Stop boxes, frames & covers		15 00	
	1 4-inch pipe		2 78	
	1 6x6-inch single branch		7 31	
	4 6⅛-inch bends		17 18	
	4 6¼-inch bends		14 38	
	1 6-inch plug		1 08	
	575 pounds lead		28 75	
	Yarn, coke, &c		3 00	
	Labor and cartage		150 29	
			468 07	
	Cr. 575 lbs. lead, charge Street Mains, 1894		28 75	
	Amount forward			$

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward..			$11,378 94
July 1893	*Hamburg Place, from Berlin St., about 1,900 feet east.*	1,843		
	157 6-inch pipe..............		$659 40	
	5 6 " Galvin stops.		72 50	
	5 Stop boxes, frames and covers..................		30 00	
	1 4-inch pipe................		2 78	
	2 6x4-inch single branches..		14 07	
	1 6-inch plug.........		1 08	
	1,812 pounds lead		90 60	
	Yarn, coke, &c................		5 00	
	Labor and cartage.............		396 32	
				1,271 75
July 1893	*New York Ave., from Ann to Lang Street.*	287		
	24 6-inch pipe...............		100 80	
	1 6 " Galvin stop..... ...		14 50	
	1 6 " stop box, frame and cover........		5 00	
	1 4 inch pipe................		2 78	
	1 6x4-inch single branch...		7 21	
	1 6x6-inch double branch....		9 20	
	350 pounds lead...............		17 50	
	Yarn, coke, &c...............		3 00	
	Labor and cartage.		67 76	
				227 75
Sep. 1893	*South Orange Ave. from Littleton to Fairmount Ave.*	282		
	24 6-inch pipe...............		100 80	
	2 6x6-in. pat. sleeves & stops		53 20	
	2 Stop boxes, frames and covers.................		10 00	
	335 pounds lead..............		16 75	
	Yarn, coke, &c...............		3 00	
	Labor and cartage.............		146 23	
				329 98
Sep. 1893	*North 6th St., from Warren to Dickerson Street.*	496		
	42 6-inch pipe...............		186 40	
	3 6 " Galvin stops....		43 50	
	3 6 " stop boxes, frames and covers.............		15 00	
	1 6x6-inch double branch....		8 99	
	2 6-inch plugs.		2 17	
	515 pounds lead..............		25 75	
	Yarn, coke, &c...........		3 00	
	Labor and cartage.............		176 32	
				461 13
	Amount forward...........			$13,669 55

STATEMENT OF STREET MAINS LAID—Continued.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward..			$13,669 55
Sep. 1893	*Pierce Street., from Springfield Ave. to South 14th Street.*	1,141		
	96 6-inch pipe................		$403 20	
	1 6x6-in. pat. sleeve and stop		26 60	
	3 Stop boxes, frames and covers..................		15 00	
	2 6-inch Galvin stops........		29 00	
	2 4 " pipe................		5 56	
	2 6x4 single branches.		13 86	
	1 6x6 double branch		9 03	
	1 6x6 single branch.........		7 45	
	1 6-inch sleeve.......		2 80	
	2 6 " ⅛ bends.......		8 76	
	1,368 pounds lead.............		68 40	
	Yarn, coke, &c		5 00	
	Labor and cartage........		385 42	980 08
Sep. 1893	*Central Ave., from 9th to 10th Street.*	236		
	20 6-inch pipe................		84 00	
	1 6x6 double branch		7 59	
	1 6-inch sleeve..............		3 08	
	294 pounds lead...............		14 70	
	Yarn, coke, &c......		3 00	
	Labor and cartage.		82 66	195 03
Sep. 1893	*Seventh Ave., from 4th to 5th Street.*	269		
	23 6-inch pipe....		96 60	
	1 6 " Galvin stop.........		14 50	
	1 Stop box, frame and cover.		5 00	
	302 pounds lead..............		15 10	
	Yarn and coke............. ...		3 00	
	Labor and cartage........ ...		65 68	199 88
Sep. 1893	*Fairmount Ave., from dead end south of 14th Ave. to 15th Ave.*	479		
	41 6-inch pipe.......		182 20	
	1 6 " Galvin stop.........		14 50	
	1 Stop box, frame and cover.		5 00	
	428 pounds lead...............		21 40	
	Yarn, coke, &c................		3 00	
	Labor and cartage.............		141 75	367 87
	Amount forward...........			$15,412 41

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward..			$15,412 41
Oct. 1893	*Prospect Place, from 14th Ave. to Bruce Street.*	445		
	37 6-inch pipe................		$155 40	
	1 6x6-inch single branch....		7 10	
	1 6-inch sleeve..............		2 97	
	2 6-inch beveled hubs... ...		6 89	
	1 4x4-inch double branch...		3 92	
	1 6 to 4-inch reducer........		4 37	
	1 4-inch sleeve..............		2 03	
	2 6-inch Galvin stops........		29 00	
	2 Stop boxes, frames & covers		5 00	
	578 pounds lead..............		28 90	
	Yarn, coke, &c...............		5 00	
	Labor and cartage....		164 11	
				414 69
Oct. 1893	*Clifton Ave., from Second Ave. south about.*	610		
	50 10-inch pipe..............		388 00	
	1 10-inch Galvin stop........		35 00	
	1 10-inch stop box, frame and cover.		10 00	
	2 10x4-inch single branches..		20 54	
	1 6x10-inch double branch...		13 19	
	2 4 inch pipe.....		5 56	
	2 10-inch plugs..............		5 53	
	1,082 pounds lead.............		54 10	
	Yarn and coke.....		5 00	
	Labor and cartage.............		540 40	
				1,077 32
Oct. 1893	*North 7th St., from dead end north of Chester Ave., north about 100 ft.*	117		
	10 6-inch pipe................		42 00	
	146 pounds lead..............		7 30	
	Yarn, coke, &c...............		2 00	
	Labor and cartage.............		25 56	
				76 86
Oct. 1893	*Summer Ave., from dead end north Delavan Ave., north about,*	117		
	10 6-inch pipe..............		42 00	
	6 ft. 4-inch hub............		1 44	
	150 pounds lead..............		7 50	
	Yarn, coke, &c...............		2 00	
	Labor and cartage.............		30 58	
				83 52
	Amount forward..........			$17,064 80

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTA
	Amount brought forward..			$17,064
Oct. 1893	*Clinton Street, from Mulberry to Broad Street.*	783		
	66 6-inch pipe................		$277 20	
	4 6-inch Galvin stops........		58 00	
	4 6-inch stop boxes, frames and covers...............		20 00	
	2 6x4-inch single branches...		13 80	
	1 6x6-inch " branch		7 59	
	1 6-inch sleeve..............		2 83	
	1 4-inch "		1 75	
	1 6x8-inch patent sleeve and stop.....................		15 83	
	1 6-inch stop box, frame and cover..		5 00	
	1 3-inch sleeve..............		1 40	
	2 ft. 3-inch spigot....		35	
	157½ pounds lead pipe........		7 85	
	35 ⅝-inch corporation stops..		22 75	
	8 1-inch corporation stops...		15 00	
	900 pounds lead....		45 00	
	Yarn, coke, &c...............		5 00	
				49
Oct. 1893	*Mulberry Street, from East Park to River Street.*	501		
	42 6-inch pipe................		176 40	
	2 6-inch Galvin stops........		29 00	
	2 6-inch stop boxes, frames and covers...............		10 00	
	1 6x4-inch single branch.....		7 00	
	1 6x6-inch " "		7 21	
	1 4x4-inch " "		3 01	
	1 6x2-inch patent sleeve and stop................. .		14 56	
	1 Galvin stop box...........		3 00	
	1 6 to 4 inch reducer........		3 92	
	1 6-inch sleeve..............		3 04	
	1 4-inch "		1 78	
	1 4-inch pipe................		2 78	
	17 ⅝-inch corporation stops..		11 05	
	3 1-inch " "		5 55	
	27 ft. 2 inch galvanized pipe and 2-inch sleeve........		6 26	
	314 pounds lead pipe..........		15 70	
	700 pounds lead..............		35 00	
	Yarn and coke, &c............		5 00	
	Amount forward....			

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward..			$17,904 44
Oct. 1893	*Emmett Street, from Ave. C east about 917 feet.*	917		
	73 6-inch pipe................		$306 60	
	57 ft. 6-inch hub and spigot pieces..................		19 95	
	3 6-inch Galvin stops........		43 50	
	3 Stop boxes, frames & covers		15 00	
	2 6x4-inch single branches..		13 07	
	2 4-inch pipe................		5 56	
	900 pounds lead.............		45 00	
	Yarn, coke, &c............ ...		5 00	
	Labor and cartage............		196 49	
				650 17
Nov. 1893	*George Street, from St. Francis to St. Charles Street.*	237		
	20 6 inch pipe		84 00	
	1 6-inch Galvin stop.........		14 50	
	1 Stop box, frame and cover		5 00	
	1 6x4-inch single branch....		7 07	
	1 4-inch pipe..........		2 78	
	280 pounds lead..............		14 00	
	Yarn, coke, &c............... ...		3 00	
	Labor and cartage............		66 89	
				197 24
Nov. 1893	*Bergen Street, from Rose Street to Winans Ave.*	308		
	23 6-inch pipe................		96 60	
	1 6-inch Galvin stop........		14 50	
	1 Stop box, frame and cover.		5 00	
	1 4-inch pipe................		2 78	
	1 6x6-inch single branch...		7 14	
	1 6x4-inch " "		6 82	
	1 6-inch beveled hub.... ...		3 29	
	1 6 inch sleeve....		3 04	
	1 6-inch plug...............		1 05	
	3 6-inch special hubs........		7 50	
	27 ft. 6-inch spigot pieces.....		9 99	
	470 pounds lead..............		23 50	
	Yarn, coke, &c................		5 00	
	Labor and cartage............		160 94	
				347 15
	Amount forward..........			$19,099 00

STATEMENT OF STREET MAINS LAID—CONTINUED.

DATE.	LOCATION.	NO. OF FEET.	COST.	TOTAL.
	Amount brought forward..			$19,099 00
Nov. 1893	*Hunterdon Street, from Clinton Ave. south about 473 ft.*	473		
	40 6-inch pipe................		$168 00	
	1 6 " Galvin stop.		14 50	
	1 Stop box, frame and cover.		5 00	
	1 6x4-inch single branch....		13 26	
	2 4-inch pipe................		5 56	
	450 pounds lead..............		22 50	
	Yarn, coke, &c................		5 00	
	Labor and cartage.............		182 81	
				416 63
Nov. 1893	*Pacific Street, from Pennington to Tichenor Street*	181		
	15 6-inch pipe................		63 00	
	1 6x6-inch single branch...		7 66	
	1 6x4-inch single branch....		6 61	
	1 4 inch pipe................		2 78	
	1 6-inch plug...............		98	
	235 pounds lead..............		11 75	
	Yarn, coke, &c................		3 00	
	Labor and cartage.		56 60	
				152 38
Dec. 1893	*Crane Street, from High Street to Summer Ave.*	253		
	21 6-inch pipe................		88 20	
	2 6-inch Galvin stops........		29 00	
	2 Stop boxes, frames and covers..................		10 00	
	2 6 to 4-inch reducers.......		7 56	
	275 pounds lead..............		13 75	
	Yarn, coke, &c................		3 00	
	Labor and cartage.............		100 14	
				251 65
Dec. 1893	Cartage on street mains of 1892.		88 50	
				88 50
				$20,008 16

REPAIRS OF STREET MAINS.

Jan. 1893.—6-inch main, N. J. R. R. Avenue, at Hamilton Street.		
6 feet 6-inch hub	$2 25	
2 6-inch sleeves	6 16	
75 pounds lead	3 75	
Yarn, coke, &c	3 00—	$15 16
Feb. 1893.—6-inch main, Washington Avenue, where the Orange sewer crosses.		
1 6-inch pipe	4 49	
1 6-inch sleeve	2 90	
75 pounds lead	3 75	
Yarn, coke, &c	5 00	
" —Walnut Street, between Mulberry St. and N. J. R. R. Ave. Thawing out about 150 feet of 4-inch main and repairs.		
1 4-inch sleeve	2 00	
1 piece 4-inch hub	1 00	
30 pounds lead	1 50	
Yarn, wood, coke, oil, &c	5 00	
" —Market Street, near Union Street, 3-inch main.		
1 3-inch sleeve	1 50	
5 feet 3-inch hub	1 00	
40 pounds lead	2 00	
$\frac{5}{8}$-inch corporation stop	65	
Yarn, coke, &c	5 00—	35 79
Mar. 1893.—3-inch main, Hamilton and Liberty Streets.		
1 3-inch pipe	2 20	
1 3-inch sleeve	1 30	
35 pounds lead	1 75	
Yarn, coke, &c	50	
" —Renewed stop boxes.		
Summer Ave. and Carteret Street	90	
Broad and Green Streets	90—	7 55
Apr. 1893.—4-inch main, Rector Street.		
1 4-inch sleeve	1 78	
3 feet 4-inch hub	75	
40 pounds lead	2 00	
Yarn and wood	1 00	
Amount forward	$5 53	$58 50

Amount brought forward	$5 53	$58 50
April 1893.—Renewed stop boxes.		
Bruen and Lafayette Streets	90	
Orange and Broad Streets	10 00	
Clifton Ave. opp. Pump House	10 00	
New stem, 4-inch stop, R. R. Place and Commerce Street	1 00—	27 43
May 1893.—Recalked joint 6-inch main, 4th Ave. and the R. R. crossing, Labor only		
Recalked joint on main at corner Hill and Broad Streets, Labor only		
Packed stop, 6-inch, Central Ave. and 6th Street, Labor only		
Renewed boxes, Bruen and Hamilton Streets	90	
" " East Mechanic and Bruen Streets	90	
Stop box, frame and cover, Mulberry and Market Streets	5 00—	6 80
June 1893.—4-inch main at R. R. Place and River Street		
1 4-inch sleeve	1 86	
5 ft. 4-inch hub	1 20	
50 pounds lead	2 50	
Yarn and wood	50	
" —3-inch main, Columbia and Elm Sts.		
2 3-inch sleeves	2 60	
4 ft. 3-inch hub	72	
$\frac{5}{8}$-inch corporation stop	65	
50 pounds lead	2 50	
Yarn and wood	50	
" —4-inch main, Mulberry and Walnut Sts		
3 4-inch pipe	8 34	
1 4-inch sleeve	1 82	
75 pounds lead	3 75	
Yarn and wood	50	
" —4-inch main, Mulberry and Walnut Sts		
18 ft. 4-inch pipe	3 52	
6 ft. 4-inch hub	1 44	
1 4-inch sleeve	1 86	
50 pounds lead	2 50	
Yarn and wood	50	
6-inch stop, Market Street, opp Depot, Put in new stem	2 00	
Amount forward	$39 26	$92 73

Amount brought forward	$39 26	$92 73
June 1893.—Renewed stop boxes.		
Clifton and 6th Avenue	90	
Clifton and Mt. Prospect Avenue	90	
Broad Street and 3d Avenue	90	
Christopher St. and Hamburg Place	90	
Berlin Street and Hamburg Place	90	
Orchard and Camp Streets	90	
Lang Street and Hamburg Place	90	
Elm and Mulberry Streets	90	
Oriental and Broad Streets, (2)	1 80	
Camp and Broad Streets	90	
Eighth Ave. and Broad Street	90	
Broad Street, opp. Walnut Street	10 00	
Broad Street and Gouverneur Street, lowered box, labor only		
Opp. 113 Springfield Avenue, lowered box, labor only		
Pearl and Halsey Streets, packed stop.		
Green and Mulberry Sts., packed stop.		
Eighth Avenue and Broad Street, packed stop		
Clifton Avenue, opp. Pump House, packed stop, labor only		60 06
July 1893.—Put in new 6-inch Galvin stop 13th Avenue and Newton Street.		
1 6 inch Galvin stop	14 50	
1 Stop box, frame and cover	5 00	
1 6-inch sleeve	2 90	
3½ feet 6-inch hub	82	
50 pounds lead	2 50	
Yarn and wood	50	
“ —Repairing 4-inch branch pipe at Mulberry and Pennington Streets.		
1 4-inch sleeve	1 86	
4½ feet 4-inch hub	1 13	
40 pounds lead	2 00	
Yarn and wood	50	
“ —Renewed Boxes.		
Hunterdon St., near Springfield Ave.	90	
Springfield Ave. near Hunterdon St. (2)	1 80	
Prince St. and South Orange Ave.	90	
Centre and Front Streets	90	
Amount forward	$36 21	$152 79

	Amount brought forward	$36 21	$152 79
July 1893.	—Crawford and Washington Streets, (2)	1 80	
	Baldwin and Washington Streets	90	
	Baldwin and Coe's Place	90—	39 81
Aug. 1893.	—Calked joint 6-inch main, 14th Avenue and South 14th Street, labor only.		
	Put new stem, 6-inch stop at 5th Avenue and 5th Street stem	3 00	
"	—Renewed stop boxes.		
	Crawford and High Streets	90	
	Hunterdon Street and 13th Avenue, (2)	1 80	
	Newton Street and 14th Avenue	90	
	Halsey and Crawford Streets	90	
	Norfolk and Bank Streets, (2)	1 80	
	Camden Street and 13th Avenue	90	
	Springfield Avenue and Boyd Street	90	
	High and Baldwin Streets	90	
	Littleton Avenue and 13th Avenue	90	
	South Orange Ave. and Newton St.	90	
	13th Avenue and Fairmount Avenue	90	
	Springfield Ave. and Boyd St., (2)	1 80	
	Longworth and High Streets	90	
	Newton and Bank Streets, (2)	1 80	
	Springfield Avenue and Boyd Streets, lowered box		
	Springfield and Belmont Avenues, raised box		19 20
Sep. 1893.	—Taking out old and putting in new 4-inch Galvin stop and repairing break at Halsey and Cedar Sts.		
	1 4-inch Galvin stop	11 00	
	1 4-inch pipe	2 78	
	1 4-inch sleeve	1 78	
	50 pounds lead	2 50	
	Yarn, wood, &c	1 00	
"	—Calked joint on 24-inch main, Eighth Avenue, above Clifton Avenue, labor only		
	Recalked joint 6-inch main at Ferry and Union Streets, labor only		
	Plugged hole on main, Campfield Street, opp. No. 48, labor only		
	Recalked joint on 6-inch main on Isabella Avenue, labor only		
	Amount forward	$19 06	$211 80

	Amount brought forward....................	$19 06	$211 80
Sept. 1893.—	Packed stop, 6-inch, at Bridge and Lombardy Place, labor only.		
	Recalked joint, 10-inch main, on Market Street and P.R.R. crossing, labor only.		
	Renewed boxes.		
	Bridge and Lombardy Place..........	90	
	Essex and Orange Streets............	90	
	Springfield and Morris Avenues	90	
	Springfield Ave. and Bedford Street..	90	
	Bridge and Ogden Streets............	90	
"	—Taking out old and putting in new 4-inch stop, Halsey and W. Park Streets.		
	1 4-inch stop........................	11 00	
	1 stop box, frame and cover..........	5 00	
	1 4-inch pipe.......	2 78	
	1 4-inch sleeve......................	1 78	
	3 ft. 4-inch hub.....................	75	
	50 pounds lead......................	2 50	
	Yarn and wood................	1 00	
"	—6-inch main, Halsey St., opp. No. 221.		
	1 6-inch sleeve	2 90	
	5 ft. 6-inch hub.........	1 75	
	25 pounds lead...	1 25	
	Yarn and wood...........	1 00	55 27
Oct. 1893.—	Replacing 4-inch plug on 4x4-inch branch, on main supplying Sewer Pumping Station.		
	1 4-inch plug	75	
	Packed 24-inch stop at Norfolk and Dickerson Streets, labor only.		
	Renewed stop boxes.		
	S. 10th Street and 16th Avenue.......	90	
	High Street and Nelson Place, (2)....	1 80	
	R. R. Place and Commerce Street....	90	
	High and Orange Streets at the Park.	90	
	Mercer and High Streets	90	
	Nelson Place and High Street.... ..	90	
	Bridge and Broad Streets...	90	
	Broome St. & South Orange Avenue.	90	
	13th Avenue and Wickliffe Street....	90	
	River and Canal Streets, (2)..........	1 80	
	W. Kinney Street....................	90	
	" "	90	
	W. Kinney Street........	90	
	" "	90	
	Nelson Place and Howard Street.....	90	
	Mulberry Street and E. Park Street,(2)	1 80	
	Nassau and High Streets............	90	
	Amount forward...........	$18 35	$267 07

	Amount brought forward	$13 35	$267 07
Oct. 1893.—	High and State Streets	90	
	W. Kinney and Belmont Avenue	90	
	" " Livingston Streets, (2)	1 80	
	" " Lewis Streets	90	
	Cherry and River Streets	90	
	River Street below Cherry Street	90	
	Lawrence and Mechanic Streets	90	
	E. Park and Mulberry Streets	90	
	Mulberry and Commerce Streets	90	
	Norfolk and Dickerson Streets	90—	28 65
Nov. 1893.—	Renewed stop boxes.		
	Springfield Avenue and 10th Street	90	
	Bowery and Freeman Streets	90	
	" near Market Street	90	
	W. Kinney and Boyd Streets	90	
	Mechanic and Ward Streets	90	
	Bleecker and Washington Streets	90	
	Broad and Green Streets	90	
	Court Street between Arlington and Shipman Streets	90	
	Arlington and Court Streets	90	
	Court Street and Coe's Place	90	
	Springfield and Morris Avenues, box, frame and cover	5 00	
	Springfield and Morris Aves., packed stop.		
	Springfield and Morris Ave., packed stop.		
	Cherry & Mulberry Sts, lowered box.		
	Reset and cut down iron box for air valve, River St. opp. Cherry St.		
	Recalked joint, 4-inch main, and reset iron plate, canal bridge, Centre Market, labor only.	—	14 00
Dec. 1893.—	6-inch main, Union and Lafayette Sts.		
	1 6-inch pipe	4 20	
	1 6-inch sleeve	2 94	
	75 pounds lead	3 75	
	Yarn and wood	1 00	
	Renewed stop boxes.		
	Union and Lafayette Streets, (2)	1 80	
	Crane and Stone Streets	90	
	Crane and High Streets, (2)	1 80	
	High Street and 7th Avenue	90	
	Walnut and Broad Streets	10 00	
	Factory and Drift Streets, leak on blow off.		
	Recalked joint on 6-inch main, opp. 1144 Broad Street.	—	27 29
			$337 01
	Labor, cartage and sundry expenses..		2,483 91
			$2,820 92

SERVICES FROM JANUARY 1, 1893, TO JANUARY 1, 1894.

⅝-INCH SERVICES. MONTHS.	No. of New Services.	No. Services Renewed.	No. of Taps Only.	No. of Taps and B'xesOnly	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe.	CHARGES.
January, 1893	9	9	2	..	1	12	269^{3}	$263 00
February, "	19	4	..	1	..	20	384	352 00
March, "	82	4	..	1	1	84	1,741^{3}	1,306 00
April, "	131	6	..	1	2	134	2,786^{3}	2,061 00
May, "	154	5	..	3	1	158	3,358^{2}	2,407 00
June, "	140	3	1	..	1	142	2,391	2,147 00
July, "	94	4	..	1	..	95	2,061	1,480 44
August, "	109	..	1	2	1	113	2,285^{3}	1,664 88
September, "	85	3	..	..	.	85	1,798	1,315 68
October, "	81	4	..	2	1	84	1,612	1,296 92
November, "	99	3	..	1	4	104	2,317	1,549 04
December, "	49	1	..	..	..	49	990	747 00
Totals	1,052	46	4	12	12	1,080	21,994^{3}	$16,589 96

SERVICES FROM JANUARY 1, 1893, TO JANUARY 1, 1894.

1-INCH SERVICES. MONTHS.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No. of Taps and B'xesOnly	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe.	CHARGES.
January, 1893	..	1	..	..	..	..	27^{2}	$ 19 00
February, "	..	..	..	..	..	..	...	......
March, "	1	..	..	..	..	1	11^{2}	23 00
April, "	7	..	..	..	..	7	160	161 00
May, "	8	..	..	..	..	8	186^{2}	184 00
June, "	4	1	..	1	..	5	105	127 98
July, "	1	1	..	..	..	1	52	46 00
August, "	2	..	..	..	..	2	41^{2}	49 00
September, "	3	3	..	..	..	3	89	138 00
October, "	3	1	..	1	..	4	78	106 00
November, "	1	..	..	1	..	2	12	33 00
December, "	1	..	..	..	..	1	9	23 00
Totals	31	7		3		34	772	$909 98

RECAPITULATION.

SIZES.	No. of New Services.	No. of Services Renewed.	No of Taps Only.	No. of Taps and BoxsOnly	No. of Boxes. Only.	No. of New Water Takers.	No. of Feet of Pipe.	CHARGES.
⅝-inch	1,052	46	4	12	12	1,080	$21{,}994^{2}$	$16,589 96
1 "	31	7	..	3	..	34	772	909 98
Totals	1,083	53	4	15	12	1,114	$22{,}766^{2}$	$17,499 94

CONNECTIONS FROM JANUARY 1, 1893, TO JANUARY 1, 1894.

MONTHS.	2-INCH.	3-INCH.	4-INCH.	TOTALS.
January, 1893	1	..	..	1
February, "	1	..	..	1
March, "	..	1	2	3
April, "	1	..	..	1
May, "	1	5	1	7
June, "	1	..	..	1
July, "	1	..	3	4
August, "	1	..	..	1
September, "	..	..	..	..
October, "	1	..	..	1
November, "	..	..	..	..
December, "	1	1	..	2
Totals	9	7	6	22

NEW METERS SET FROM JANUARY 1, 1893, TO JANUARY 1, 1894.

MONTHS.	⅝-inch.	¾-inch.	1-inch.	1½-inch.	2-inch.	3-inch.	4-inch.	6-inch.	Total.
January, 1893	5	1	4	..	3	..	1	..	14
February, "	5	..	1	..	2	..	..	..	8
March, "	7	1	2	.	..	..	2	..	12
April, "	9	1	2	..	2	..	..	..	14
May, "	20	..	11	1	2	..	..	..	34
June, "	20	1	7	..	1	1	..	..	30
July, "	6	1	2	..	..	..	..	..	9
August, "	9	..	4	1	..	1	..	1	16
September, "	9	..	5	..	1	..	..	..	15
October. "	6	..	2	..	1	..	..	..	9
November, "	5	2	1	..	..	1	..	..	9
December, "	9	1	1	..	1	..	..	..	12
Totals	110	8	42	2	13	3	3	1	182

INVENTORY NO. 1.

STREET MAINS, STOCK AND MATERIAL.

IRON PIPE.

Three-inch, 12 feet, at 17½c	$ 2	10
Four-inch, 120 ft., at 23c	27	60
Six-inch, 384 ft., at 37c	142	08
Eight-inch, 24 ft., at 68c	16	32
Ten-inch, 96 ft., at 82c	78	72
Twelve-inch, 24 ft., at 91c	21	84
Sixteen-inch, 108 ft, at $1.50	162	00
Twenty-inch, 96 ft., at $2.17	208	32
Twenty-four-inch, 132 ft., at $2.67	352	44
Thirty-inch, 168 ft., at $4.42	742	56
Thirty-six-inch, 12 ft., at $3.44	41	28

SLEEVES.

Two-inch, 3 at 40c	1	20
Three-inch, 2 at $1.30	2	60
Four-inch, 8 at $1.85	14	80
Six-inch, 2 at $2.80	5	60
Eight-inch, 2 at $3.65	7	30
Ten-inch, 1 at $4.75	4	75
Sixteen-inch, 3 at $7.25	21	75
Twenty-inch, 8 at $8.25	66	00
Twenty-four-inch, 1 at $13.70	13	70
Thirty-inch, 2 at $30.72	61	44

BENDS, 90 DEGREES.

Three-inch, 3 at $1.10	3	30
Sixteen-inch, 1 at $10.00	10	00

BENDS, 45 DEGREES.

Three-inch, 4 at $1.10	4	40

BENDS, 65 DEGREES.

Twenty-four-inch, 3 at $26.50	79	50

DOUBLE BRANCHES.

Three by three, 4 at $3.15	12	60
Four by four, 3 at $3.85	11	55
Six by four, 1 at $8.68	8	68
Eight by six, 1 at $10.50	10	50
Ten by six, 4 at $11.50	46	00
Ten by four, 1 at $11.65	11	65
Ten by ten, 1 at $13.50	13	50
Sixteen by six, 3 at $22.50	67	50
Amount forward	$2,278	58

Amount brought forward	$2,273 58

SINGLE BRANCHES.

Two by two, 2 at $1.50	3 00
Three by two, 1 at $1.93	1 93
Three by three, 1 at $2.43	2 43
Three by six, 1 at $6.37	6 37
Four by two, 1 at $2.35	2 35
Four by three, 2 at $2.80	5 60
Four by four, 3 at $3.15	9 45
Six by three, 1 at $6.37	6 37
Six by six, 2 at $7.66	15 32
Eight by six, 1 at $8.58	8 58
Ten by two, 1 at $8.58	8 58
Ten by four, 1 at $9.00	9 00
Ten by six, 1 at $11.00	11 00
Ten by ten, 3 at $12.95	38 85
Twelve by four, 1 at $15.00	15 00
Twelve by eight, 1 at $16.00	16 00
Sixteen by four, 1 at $23.00	23 00
Sixteen by six, 4 at $23.25	93 00
Twenty by four, 1 at $24.25	24 25
Twenty by twelve, 1 at $30.00	30 00
Twenty-four by ten, 2 at $40.00	80 00

REDUCERS.

Three to two, 4 at 95c	3 80
Four to three, 1 at $2.00	2 00
Six to four, 3 at $2.95	8 85
Eight to six, 5 at $9.00	45 00
Ten to six, 1 at $9.45	9 45
Ten to eight, 1 at $10.00	10 00
Twenty to ten, 2 at $12.00	24 00
Twenty to sixteen, 1 at $14.50	14 50

CAPS.

Two-inch, 2 at 25c	50
Three-inch, 2 at 31c	62
Four-inch, 15 at 42c	6 30
Six-inch, 6 at $1.12	6 72
Ten-inch, 1 at $2.00	2 00
Twelve-inch, 2 at $3 00	6 00
Sixteen-inch, 1 at $4.00	4 00
Twenty-inch, 1 at $6 00	6 00
Twenty-four-inch, 3 at $8.00	24 00
Thirty-inch, 2 at $10.80	21 60
Amount forward	$2,879 00

Amount brought forward	$2,879 00

PLUGS.

Three-inch, 1 at 25c	25
Four-inch, 59 at 40c	23 60
Six-inch, 52 at 60c	31 20
Sixteen-inch, 1 at $3.00	3 00
Twenty-inch, 1 at $5.00	5 00
Twenty-four-inch. 1 at $8.00	8 00
Thirty-inch, 1 at $10.00	10 00

BEVELED HUBS.

Three-inch, 1 at $1 75	1 75
Four-inch, 1 at $2.75	2 75
Six-inch, 2 at $3 92	7 84
Ten-inch, 2 at $9.00	18 00
Twenty-four-inch, 1 at $17.50	17 50

STOP VALVES.

Three-inch, (old) 5 at $10.00	50 00
Four-inch, (Galvin) 43 at $9.00	387 00
Four-inch, (Hewes & Phillips) 3 at $10.00	30 00
Six-inch, " " 3 at $10.00	30 00
Six-inch, (Galvin) 17 at $14.50	246 50
Ten-inch, " 1 at $22.50	22 50
Ten-inch, (old) 5 at $10.00	50 00
Twenty-four-inch, (Galvin) 1 at $262.50	262 50

SMITH'S PATENT SLEEVE BRANCHES.

Six by four, 1 at $5.00	5 00
Four by four, 1 at $4.00	4 00
Four by three, 4 at $3.50	14 00

MISCELLANEOUS.

Pig lead, 3,546 pounds at 4.10c	145 39
Yarn, 10 pounds	90
Twenty by twenty, "Y" branch, 1	61 00
Sixteen by ten, "Y" branch, 1	23 40
Six by six, angle branch, 2 at $9.85	19 70
Sixteen by twenty-four flanged branch, 1	35 75
Twenty-four-inch, curved pipe, 1	24 00
Thirty-inch, curved pipe, 1	30 00
Crosspiece for twenty-four-inch plug, 1	2 88
	$4,452 41

INVENTORY NO. 2.

GENERAL SUPPLIES.

Wood stop boxes, 11 at 90c	$ 9	90
Wood stop box, 6 ft. long, 1	1	50
No. 6 Morgan stop box, 1	4	75
No. 8 Morgan stop box, 1	7	75
Galvin iron stop boxes, 43 at $3.00	129	00
Meter boxes (wood), 2 at $8.00	16	00

PAINTS AND OILS.

White lead, 20 pounds at 10c	2	00
Green paint, 9 pounds at 6c		54
Linseed oil, 3 gallons at 50c	1	50
Kerosene oil, 25 gallons at 10c	2	50

HARDWARE.

Twenty-penny nails, 50 pounds at 4c	2	00
Ten-penny nails, 10 pounds at 4c		40

LUMBER.

470	feet of	24x10 Spruce at 2c	9	40
797	"	1¼x10 box lumber, spruce, at 2c	15	94
456	"	12x12 spruce at 2c	9	12
96	"	⅞x12 pine at 2c	1	92
392	"	1¼x12 pine at 2c	7	84
352	"	⅞x12 cherry at 2c	7	04
175	"	1½x12 oak at 3c	5	25
			$234	35

INVENTORY NO. 3.

BELLEVILLE AND HIGH SERVICE INVENTORIES.

One portable forge	$ 30 00
One anvil	10 00
Rope, blocks and falls	5 00
Two wheelbarrow scales	120 00
Two coal buckets	160 00
Five iron barrows	100 00
One three-horse engine	200 00
One drill press	150 00
One shaper	400 00
One lathe and appurtenances, including shafting and counter shafting	600 00
One bench vise	16 00
One carpenter's bench	5 00
Two chain blocks and falls	25 00
One table	3 00
Three forty-gallon cans	15 00
One desk	20 00
One clock	15 00
Two pair stepladders	5 00
One lawn mower	8 00
Coal hoisting engine	300 00
Apparatus shed, etc	139 62
Six chairs	11 10
One pipe vise	15 00
Iron barrows	26 00
Stove and fittings, weighmaster's box	16 66
One wardrobe	5 00
Table	3 00
Eight-day clock	20 00
One platform scale	200 00
One wheelbarrow scale	60 00
Two ladders	8 00
Four tool closets	12 00
One bench and vise	10 00
One pipe vise	15 00
Stove and fixtures at gatehouse	18 00
Andrew pump, No. 3	100 00
Pulley for pump	35 00
Oil cabinets	45 00
	$2,926 38

INVENTORY NO. 4.

OFFICE INVENTORIES—Furniture and Fixtures on Hand.

OFFICE.

One cash safe	$ 400 00
One book safe	150 00
Desks, fittings, fixtures and vaults	818 00
One portable desk	55 00
Two portable desks	25 00
One automatic check perforator	37 50
One calendar clock	50 00
Eight stools	16 00
Six chairs	24 00
Six office chairs	20 00
One numbering stamp	50 00
One water cooler and stand	10 00
Umbrella stands	15 00
One portable desk, 8 ft. long	38 00
One portable desk, 15 ft. long	80 75
Floor coverings, cuspidors, mats, etc	157 00

BOARD MEETING ROOM, COMMISSIONERS' ROOM AND SUPERINTENDENT'S OFFICE.

Nine desks	266 00
Gas and electric light and general fittings	112 00
Six chairs	100 00
Three chairs	45 00
Two chairs	50 00
Nine chairs	45 00
One couch	50 00
One table	10 00
One table	40 00
Carpets, rugs, maps, cuspidors, etc	265 00
Sixteen rugs	64 00

ENGINEERING AND INSPECTION DEPARTMENT.

Cases and drawing boards	160 00
Transits	300 00
Level	75 00
Draughting instruments	50 00
Chain and rods	15 00
Maps, racks and fixtures	15 00
Map case	10 00
Three portable desks	54 00
Two tables	32 00
Three chairs	15 00
Three stools	9 00
One table	10 00
Six chairs	18 00
	$3,756 25

INVENTORY NO. 5.

STABLE INVENTORY—STOCK AND PROPERTY ON HAND DECEMBER 31, 1893.

Two road horses	$ 600 00
One draught horse	300 00
One draught horse	250 00
Team draught horses	550 00
Two draught horses	200 00
One phaeton	325 00
One side bar	125 00
One phaeton, Belleville	50 00
One depot wagon	200 00
Two business wagons	360 00
One truck wagon	235 00
One pipe truck	250 00
One set light team harness	50 00
One set heavy team harness	40 00
Two sets single harness	30 00
Two sets buggy harness	50 00
One cart and harness	50 00
Blankets, robes, etc	40 00
One wagon jack	2 00
Forks and brooms	3 00
Pails	2 00
Brushes and combs	2 00
225 ft. rubber hose	33 75
Feed bin	8 00
Stove	5 00
One pipe-cutting machine	28 00
Two ⅝-inch tapping machines	200 00
One 1 inch tapping machine	150 00
One 2 inch tapping machine	75 00
One 3 to 4-inch tapping machine	175 00
One 6 to 12 inch tapping machine	300 00
One 20-inch cutter for machine and spindle and extension	214 24
Three derricks	75 00
Two sets blocks and ropes	30 00
Seven jackscrews	31 00
Three worm blocks, 4,000 pounds	150 00
One grindstone and frame	10 00
Seventeen stop keys	34 00
Seven lanterns	6 00
Six pipe tongs	12 00
Eight pumps	40 00
One vise	5 00
Seven sledges	6 00
Pot stove	7 50
Two Wells lights	200 00
Two diaphragm pumps	110 00
	$5,619 49

INVENTORY NO. 6.

HYDRANT ACCOUNT.

Six-inch Galvin hydrant, 1 at $45.00	$ 45 00
Four inch Galvin hydrant, 25 at $27.00	675 00
Hewes & Phillips hydrant, 4 at $20.00	80 00
Hydrant soles, 6 at $4.00	24 00
Hydrant heads, 10 at $2.50	25 00
Hydrant corner irons, 6 at 12c	72
	$849 72

INVENTORY NO. 7.

SERVICE STOCK.

$\frac{5}{8}$-inch corporation stops, 71 at 65c	$ 46 15
$\frac{5}{8}$-inch curb stops, 72 at 80c	57 60
1-inch corporation stop, 1 at $1.85	1 85
1-inch curb stops, 5 at $1.85	9 25
$\frac{5}{8}$-inch lead pipe, 4,476 pounds at 4.80c	214 85
1-inch lead pipe, 1,375 pounds at 4.80c	66 00
$\frac{5}{8}$-inch curb boxes, (iron) 93 at $1.45	134 85
1-inch curb boxes, (iron) 10 at $2.05	20 50
Wood curb boxes, 3 at 90c	2 70
	$553 75

INVENTORY NO. 8.

BELLEVILLE FUEL AND STORES ON HAND DEC. 31, 1893.

FUEL.

$3{,}180\frac{2115}{2240}$ tons pea coal at $2.80 per ton	$8,906 64

STORES.

15	pounds	1-16-inch sheet packing at 50c	7 50
9	“	⅛-inch sheet packing at 50c	4 50
1	“	¼-inch square packing at 50c.	50
5	“	⅜ “ “ “ “	2 50
3	“	½ “ “ “ “	1 50
6	“	⅝ “ “ “ “	3 00
20	“	⅞ “ “ “ “	10 00
4	“	1 “ “ “ “	2 00
9	“	⅜-inch round packing “	4 50
3	“	¾ “ “ “ “	1 50
21	“	⅝ “ “ “ “	10 50
5	“	1 “ “ “ “	2 50
8	“	1⅛-inch combination packing at 80c	6 40
4	“	½ “ “ “ “	3 20
10	“	hemp at 9c	90
38	“	manhole gaskets at 60c	22 80
4	“	“ “	2 40
6	gauge	glasses at 25c	1 50
4	sheets	emery cloth at 5c	20
2	scrubbers	at 50c	1 00
4	brooms	at 25c	1 00
70	balls	lamp wick at 5c	3 50
25	pounds	of waste at 10c	2 50
44	gallons	lard oil at $1.00	44 00
48	“	cylinder oil at 80c	38 40
15	“	kerosene at 10c	1 50
50	pounds	lead at 5c	2 50
30	“	babbitt-metal at 15c	4 50
10	“	nails at 10c	1 00
24	“	¼-inch sheet packing at 50c	12 00
4	“	1-32-inch sheet packing at 50c	2 00
			$9,108 44

INVENTORY NO. 9.

HIGH SERVICE FUEL AND STORES ON HAND DEC. 31, 1893.

FUEL.

25 tons coal at $4.75 per ton	$ 118	75

STORES.

16 gallons lard oil at $1.00	16	00
40 gallons cylinder oil at 80c	32	00
3 balls lamp wick at 5c		15
10 gauge glasses at 25c	2	50
8 pounds combination packing at 80c	6	40
6 “ Tuck's packing at 51c	3	06
12 “ ⅛-inch Tuck's sheet rubber packing at 35c	4	20
3 “ 1-16 “ “ “ “ at 50c	1	50
4 manhole gaskets, 5x7, at 60c	2	40
5 pounds waste at 10c		50
18 manhole gaskets, 10x14, at 60c	10	80
10 gauge glass waste at 20c per dozen		17
5 brooms at 25c	1	25
	$ 199	68

INVENTORY NO. 10.

HIGH SERVICE PUMPING STATION.

Cold chisels	6
Monkey wrench, 12-inch	1
Monkey wrench, 24-inch	1
Monkey wrench, 6-inch	1
Metal saw	1
Wood saw	1
Machine vise	1
Spanning wrenches	2
Solid wrenches	10
Stillson wrenches	2
Double wrenches	5
Scoop shovels	2
Crowbar	1
Hoe	1
Rake	1
Slice bars	2
Wheelbarrows	2
Plug, ¾-inch	1

INVENTORY NO. 11.

TOOLS ON HAND AT BELLEVILLE PUMPING STATION DECEMBER 31, 1898.

Engine lathe	1
Shaper	1
Drill press	1
Machine vise	1
Pipe vise	1
Hammers	3
One-ton differential block	
½-ton differential block	
Ratchets	2
Monkey wrenches	3
Pipe stocks, taps and dies	2
Pipe cutters	2
Indicator	1
350 ft. 2½-inch hose	
100 ft. ¾-inch hose	
100 ft. 1 inch hose	
No. 4 shovels	2
Tub scrapers	2
Taps and dies	22
Machine taps	8
Screw plates	3
Twist Drills	20
Breast drills	1
Sets, can and traps	2
Oil pot	1
Hammer	1
No. 2 forge	1
Anvil	1
Sledge	1
Tongs	4
Hardy	2
Swages	2
Flatter	1
Shears	1
Surface plate	1
Augers	2
Hack frame saw	2
Calipers	2
Compass saw	1
Plyers	1
Sets, blocks and fall ropes	2
Grindstone	1
Hand lamps	4
Wheelbarrows	5
Coal buckets, 4 cwt	2
Wheelbarrow scales	1
Clamps	4
Pipe tongs	20
Fire hooks	4
Slice bars	2
Fire hoes	4
Gas machine	1
Gas plyer	1
Lanterns	4
Axe	1
Pinch bars	2
Pickaxe	1

FITTINGS, ELLS.

¼-inch	8
⅜-inch	5
½-inch	9
¾-inch	12
1¼-inch	8
1½-inch	10
2-inch	8

TEES.

¼-inch	3
½-inch	2
⅜-inch	4
¾-inch	10
1-inch	3
1¼-inch	2
1½-inch	10

UNIONS.

¼-inch	2
⅜-inch	3
¾-inch	5
1¼-inch	8
1½-inch	8

NIPPLES.

½-inch	3
¾-inch	3
1-inch	4
2-inch	20
2-inch globe valve	1

ANGLE VALVES.

¼-inch	2
½-inch	2
2½-inch	3

PLUGS.

¾-inch	2
2-inch	2

PIPE.

½-inch	30 feet
¾ inch	10 feet
1 inch	6 feet
1¼-inch	13 feet
1½-inch	10 feet
2-inch	16 feet
1-inch	6 feet
¾-inch	6 feet

IRON.

⅜-inch round	5 pounds
½-inch round	66 pounds
⅝-inch round	18 pounds
¾-inch round	90 pounds
⅞-inch round	136 pounds
1-inch round	65 pounds
1⅛-inch round	47 pounds
¾-inch square	26 pounds
Machine & tool steel	15 pounds

MISCELLANEOUS.

Valve seats	6
"Z" springs	15
Steam damper	1
Brass castings	15 pounds
Nuts	12 pounds
Bolts, ⅝-inch	6 pounds
Files	5 pounds
Pump valves	16
Air valves (pump)	23

INVENTORY NO. 12.

GENERAL INVENTORY OF STOCK AND OTHER SUPPLIES AND PROPERTY NOT INCLUDED IN FOREGOING INVENTORIES.

Picks	60
Pickhandles	65
Crow bars	22
Shovels	65
Setts	10
Yarning irons	4
Hand chisels	12
Hand hatchets	10
Hammers	8
Sledges	5
Wrenches	12
Ladles	4
Lead pots	2
Hydrant keys	6
Vise	1
Scrapers	2
Hose butts	4
Axes	4
Hand saws	1
Grindstones	2
Tool box wagon	2
Jackscrews	11
Oil cans	5
Screwdrivers	5
Rubber boots, pairs	9
Steel wedges	9
Paving hammers	2
Water pails	12
Chain slings	3
Gasoline lamps	4
Ladders	1

IRON PIPE SPIGOTS.

Two-inch	15 feet
Three-inch	40 feet
Four-inch	18 feet
Six-inch	300 feet
Ten inch	18 feet
Twelve-inch	12 feet
Fourteen inch	11 feet
Sixteen-inch	55 feet
Twenty-inch	35 feet
Twenty-four-inch	20 feet
Thirty-inch	16 feet

IRON PIPE HUBS.

Two-inch	5 feet
Three-inch	8 feet
Four-inch	60 feet
Six-inch	25 feet
Eight inch	10 feet
Ten-inch	10 feet
Twelve inch	25 feet
Sixteen-inch	10 feet
Twenty-inch	15 feet
Twenty-four-inch	20 feet
Thirty inch	30 feet

HYDRANT STATEMENT

FOR THE YEAR ENDING DECEMBER 31, 1893.

(As a continuation to the list of Hydrants in the reports of 1883 to 1892.)

LOW SERVICE.

No.	LOCATION.	Pressure Pounds.
150*p*	Verona Avenue, north side, opp. Oraton Street	57.
350	West Kinney Place, west side, south of West Kinney Street	36
399	River Street, east side, at Mulberry Street	37
547	Northwest corner Pacific and Tichenor Streets	40
690	Northwest corner Alyea and Darcy Streets	36
691	Ann Street, west side, 300 ft. south of New York Avenue	39
692	Northeast corner New York Avenue and Ann Street	36
750*b*	Northwest corner Read and Market Streets	34
750*c*	Read Street, west side, middle of block, between Market Street and Passaic Avenue	32
750*d*	Northwest corner George and St. Charles Streets	37
833	Northwest corner Jefferson and Delancy Streets	44
834	Northwest corner Jefferson and South Streets	44
877	Northwest corner Emmett Street and Avenue D	42
878	Emmett Street, north side, about 130 ft. east of Avenue D.	42

HIGH SERVICE.

1150*x*	Southwest corner Sherman Avenue and Concord Streets	78
1150	Alley, between Washington and High Streets, south of Spruce Street	61
1300*e*	Southwest corner South 14th Street and Gould Avenue	35
1300*f*	South 14th street, west side, middle of block, between Gould and 9th Avenues	34
1300*g*	Northwest corner South 14th Street and 9th Avenue	33

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Annual Report

OF THE

BOARD OF
Street and Water Commissioners

OF THE

CITY OF NEWARK, N. J.

For the Year Ending

DECEMBER 31ST, 1894.

ANNUAL REPORT

OF THE

BOARD OF

STREET AND WATER COMMISSIONERS

OF THE

CITY OF NEWARK, N. J.

For the Year ending December 31st, 1894.

OFFICERS AND MEMBERS.

President, - ***HARRISON VAN DUYNE, No. 781 Broad Street.***
Counsel, - - ***CHANDLER W. RIKER, 534-537 Prudential Bldg.***
Clerk, - - ***ALEX. M. LINNETT, No. 77 Lincoln Park.***
General Supt. of Works. ***J. CROWELL MUNDY, No. 259 Belleville Ave.***

COMMISSIONERS.	RESIDENCE.
HARRISON VAN DUYNE,	***No. 350 Summer Avenue.***
ABRAM JORALEMON, -	***" 25 Johnson Avenue.***
FREDERICK KUHN, - -	***" 275 S. Eighth Street.***
F. M. TICHENOR, - -	***" 10 Lombardy Street.***
D. T. CAMPBELL, - -	***" 229 Mt. Pleasant Avenue.***

NEWARK, N. J.:
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24 CLINTON STREET.

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ASTOR, LENOX AND
TILDEN FOUNDATIONS
1904

To the Honorable the Mayor and Common Council of the City of Newark:

In response to the request of his honor Mayor Lebkuecher, the Board of Street and Water Commissioners, present herewith their Annual Report of the several departments under their supervision.

Superintendent's Report.

To the Board of Street and Water Commissioners of the City of
Newark, N. J.:

Gentlemen:

I herewith respectfully submit the following report on the condition and operation of the Works of the Department of Water for the year ending December 31st, [illegible].

The Pumping Stations.

During the year there has been no water pumped from the Passaic River at the Belleville Pumping Station for the Supply of the City, the supply having been exclusively that furnished by the East Jersey Water Co., from the water-shed of the Pequannock River. Up to August [illegible]th, fires were constantly kept banked under three of the boilers at the Belleville Pumping Station and two at the High Service Pumping Station, when they were ordered drawn by the Committee on the Department of Water. Since that time no fires have been maintained except for the purpose of getting up steam for two days in each month. in order to test the pumping machinery, and to keep the same in good working condition, also, during the cold season, sufficient for heating purposes. The boilers however are kept constantly in readiness to be started at a moment's notice.

The engines and boilers at both stations are in good working order and have needed but few repairs, such only as could be attended to by the employees at the Stations; the only exception being that of the feed-pump of Boiler No. 3, the steam-cylinders of which. needed re-boring and new pistons to fit.

During the summer, the water in the two filtering. or rather settling-basins, into which the river water had backed at every tide since the new water supply was introduced permanently on May 1st, 1892, became very stagnant. The inlet conduit from the river was closed up and a portable pump secured, which being operated by steam from one of the boilers, was worked for about two weeks pumping the stagnant water from the basins into the river. Owing to the limited capacity of the pump (about 1,500,000 galls. in 24 hrs.) and the inflow of the ground-water through the bottom, it was not possible to reduce the water-level to more than about 18-inches below low-tide. However, the pumping had the effect of clearing and freshening the water, inasmuch as the water pumped out was gradually replaced, during the process, by the ground-water.

From April 12th, at 5 P. M. to May 16th, 2 P. M., Pump No. 2 at the High Service Station was in continuous operation, night and day, supplying the Special High Service, while the High Service Reservoir at South Orange Avenue, was emptied for the purpose of cleaning, etc. of the same.

Pumping had also to be resorted to on July 11th, at 8 A. M., and kept up for 26 hours, on account of the repairs of a serious break of a casting attached to the main conduit of the new water supply at the Great Notch.

Pump No. 1 at the High Service Pumping Station, which has a capacity of 3,000,000 gallons, and which was the first of the three pumps erected at the Station, has become entirely inadequate for either of the High Service levels—Regular and Special—and it has been decided to dispose of the same.

The saving in coal during the last five months through "drawing" of the fires at the two Pumping Stations, has been considerable, as also the saving in salaries through the reduction of the force of engineers and firemen.

The late Mr. Christian Klemm who for a number of years held the position of 1st Asst. Engineer, and who since the resignation of the Chief Engineer had been acting in that capacity, resigned in August last on account of failing health. Mr. E. C. Butts was appointed his successor, and has now entire charge of the Pumping Department. Mr. Butts at present takes sole care of the Belleville Pumping Station, while one assistant is in charge of the High Service Pumping Station, with one fireman at each station.

Pump Mains Nos. 1 and 2, and Supply Mains Nos. 1 and 2.

Neither of these four mains have needed any repairs during the year. Supply Main No. 1 (24-inch) which through the grading of Clinton Street, between River and William Streets, in Belleville, had been exposed and partially uncovered, has been successfully lowered. The grading of the street had been done so late in the season—1893—that the work of lowering had to be deferred until spring of this year.

On the south-west corner of Quarry and William Streets, Belleville, a "hub" on the 30-inch Supply Main No. 2, has for some time been exposed in such a way that nearly all-vehicles turning the corner strike it. The Engineer of this Department was instructed to confer with the Belleville authorities in order to ascertain whether some means could be devised to cover the "hub" so as to protect the same, but no conclusion could be reached. The fact remains nevertheless that it is a matter that should be remedied, but the expense ought not be borne by this Department alone.

The Receiving Reservoir at Belleville.

The condition of this Reservoir continues as good as ever, and no repairs of any kind have been needed. In the spring a connection was made with one of the five 16-inch pipes of the new water supply leading to the gate-house from the main conduit in Jerolemon Street. This connection was made inside of the gates which shuts off the water from the main conduit, and was intended for supplying the keeper's house, flower-house, sprinkling lawns, etc., and proved of great service during the excessive drought of the past summer.

The Low Service Reservoir.

The water-level in this Reservoir has been generally kept at a depth of between 16 and 18 feet, (109 to 110 feet above tide.) During the summer, inspection was made of the Branch Brook Sewer, from the Old Branch Brook Reservoir to Clifton Avenue, in order to ascertain whether there were any indications of leaks in the bottom of the Reservoir discharging in that direction, but none were found. There has been no re-appearance of the leak on the west side of the Reservoir, opposite Seventh Avenue. It would be advisable however to empty the same during the coming spring for more thorough inspection, and at the same time the slope-walls should be repointed and the bottom cleaned of the silt-deposit, which can be done at a comparatively small expense, inasmuch as it dries very rapidly, this Reservoir having no cement bottom and is then easily removed The depression in the vertical wall, west of the steps, which has for a number of year been an eyesore, should at the same time be taken down, rebuilt, and brought to the proper level.

The 24-inch pipe in Seventh Avenue connecting the 36-inch conduit of the new water supply in Fifth Street with the Reservoir, the laying of which was commenced in the latter part of 1893, but had to be discontinued until the regular Spring emptying of the Morris Canal (under which it lies,) has been completed, and can now be used to supply the Low Service Reservoir independent of the Supply Mains, in case of emergency.

The High Service Reservoir.

This Reservoir is at present in good condition. For the purpose of cleaning the same and erecting the screen-tower, the contract for the construction of which had been made last year, it was emptied in April. To do this the influent-gates of the new water supply were first closed and the Regular High Service fed from the Reservoir until the water-level of the same was drawn down to about 10 feet, when the connection between the Special High Service and the new water supply was shut off, and the pump at the High Service Pumping Station started to supply the same.

On the following day the officers of the East Jersey Water Co. took off the extra pressure required for the Special High Service, the effluent-gates of the Reservoir were closed, and the Regular High Service fed directly from the well in the new gate-house through the connection made last year between the same and the

24-inch Regular High Service Main in South Orange Avenue. But for this connection it would have been utterly impossible to accomplish the work. This mode of supply was carried on successfully during the five weeks occupied in doing the work, but it required the constant even minutely attention, night and day, of the employees of the East Jersey Water Co., which has sole control of the manipulation of the gates in the gate-house.

The water remaining in the Reservoir was discharged through the new 12-inch waste-pipe which was laid last year. and which connects the original waste-pipe (a portion of which had to be abandoned,) with the sewer in South Orange Avenue, opposite South Eighth Street.

It was found that the deposit of silt on the bottom and slopes of the Reservoir was greatly in excess of what had been anticipated, and therefore more time was required for its removal. This was accomplished by means of an inclined plain, the silt being loaded on cars made for the purpose and drawn by a single horse. It was then deposited on the vacant lot owned by the Board, situated on the south side of Fourteenth Avenue, tbe character of the silt being entirely harmless.

The surface of the bottom and slopes of the Reservoir was then thoroughly cleaned and scoured by means of brushes. The joints of the slope-wall, which had suffered considerably from exposure and were in great need of it, were re-pointed. The screen-tower was erected, and the bridge connecting the same with the bank placed in position.

Water was again let into the Reservoir on the 10th of May, and the regular supply from the same resumed on the 13th. The connection for the Special High Service with the new water supply was re-opened on the 16th and the pump which had been supplying the same during the progress of the work, stopped.

Consumption.

The number of new taps made during the year was 972 (138 less than the previous year,) of which number 405 were on the Low Service and 567 on the High Service.

During the last three years, the number of new taps has fallen off considerably.

In 1890—1733 new taps were made.
" 1891—1742 " " " "
" 1892—1448 " " " "
" 1893—1110 " " " "
" 1894— 972 " " " "

showing the effects of the "hard times."

The total number of taps at the end of the year was 28.537, of which 16,245 on the Low Service, and 12,292 on the High Service. The number of taps on the latter is gradually approaching that of the former. In 1880 there were in all 11,088 taps, of which 2974, or nearly 27% on the High Service, while at the end of 1894 the number of taps on the latter has increased to 43% of the total.

The Fast Jersey Water Co. has recently furnished the Board with statements showing the daily flow into the Newark Reservoirs, including the quantity supplied directly to the Special High Service, affording the opportunity to prepare the usual consumption statements for 1894 which is hereto appended, together with a diagram showing the monthly averages from 1883 to 1894 both inclusive.

Up to May 1st, 1892, when the new water supply was permanently established, the consumption was calculated from the log-books at the Belleville Pumping Station, which afforded the best means for obtaining exact results. Since that time the statements of the East Jersey Water Company have supplied the data for the consumption table and diagram.

The extraordinary increase of consumption during the months of June, July, August and September, beginning in 1886 and growing year by year as shown on the diagram, and caused by the use of motors for running fans, became finally so enormous that in

1891 the Board was forced to establish a regulation to go into effect the following year, requiring all motors to be metered. This practically abolished the use of the same. This regulation went into effect almost simultaneously with the introduction of the new water-supply, but inasmuch as the consumption calculations could not any more be made from the log-books at Belleville, the effect of the enforcement of the new rule could not be ascertained on the same basis as formerly, and therefore, comparison with previous years could not be made.

The average monthly consumption for the period above referred to, beginning with 1886 and up to May 1st, 1892, is indicated on the diagram by broken lines, while the dotted lines show the consumption of the previous years, and the full lines the consumption in accordance with the statements furnished by the East Jersey Water Company.

The diagram illustrates another striking fact, namely: the extraordinary consumption of the new water supply. This is especially noticeable in the period from September 1st, to June 1st.

Below is given a table of the monthly average consumption per tap compiled from former reports:

Year	1889	1890	1891	1892	1893	1894
Jan.	616	583	612	607	*881*	*718*
Feb.	710	579	582	594	*857*	*764*
Mar.	600	582	608	597	*739*	*698*
Apr.	597	581	599	558	*662*	*711*
May	671	627	654	*586*	*703*	*715*
June	759	825	867	*672*	*740*	*727*
July	806	904	915	*704*	*754*	*752*
Aug.	790	879	911	*767*	*752*	*736*
Sep.	721	791	821	*735*	*719*	*723*
Oct.	642	634	650	*735*	*710*	*704*
Nov.	633	604	569	*750*	*697*	*678*
Dec.	604	621	560	*712*	*712*	*688*

sumption

cember 1900.

The figures showing the monthly average consumption since the new supply has been in permanent operation, are in italics. An examination of the table will show that although the summer periods above referred to naturally indicate a decrease, attributable without doubt to the disuse of motors, the remaining periods of 1892, '93 and '94 show conclusively the sudden excess over former years.

The average daily consumption for the year which in 1891 was 16,600,000 gallons has increased to 20,040,000 gallons in 1893, and to 20,042,000 gallons in 1894, and the annual daily average per tap, which for a number of years had varied but little (from 650 to 660 gallons) has increased to 727 gallons in '93 and 703 gallons in '94, and this notwithstanding the greater number of meters (there were at the end of the year 1,415 meters in use,) the suppression of nearly all motors (but few are used, and those principally for church organs;) the falling off in the number of new taps, and the "hard times" which certainly tend to decrease the consumption.

The supply of water to the city of Newark, is by the contract with the East Jersey Water Co., conditionally limited to a maximum daily of 27,500,000 gallons up to September, 1900, when the works and the total supply of 50,000,000 gallons per day, will come into the full possession of the city.

In January, 1893, the monthly average ran up to nearly 23.500 000 gallons, and for four consecutive days almost reached 27,000,000 gallons. Granting that the statements of the East Jersey Water Co. to be correct, the enormous increase of consumption can only be attributed to the fact that, consumers in general assuming the supply to be practically unlimited, recklessly waste the water. Immediate steps should be taken to check this waste.

The hydrant pressure has been taken all over the city, but several sections will have to be gone over again, inasmuch as it was found that a number of stops that should have been closed were open. This was not ascertained however, until the pressure was being taken.

Early in the year the Irvington Water Company made application to the Board for a supply of water for Irvington Village and parts of, Clinton Township, and on April 23rd a contract was entered into between the Board and the Company for the furnishing of the same. In September the connection with the pipes of the Company was made in Springfield Avenue, at the City line where a meter is placed. The Company is to pay one hundred and twenty-five dollars per million gallons, which is the same price as paid for the supply of the Columbia Heights, in Vailsburgh. The pressure at the flag-pole in the village at the intersection of Springfield and Clinton Avenues, is 50 lbs. and gives general satisfaction.

Distribution.

During the past year, 24,245 lin. feet of pipe have been laid in the City.

140 feet	24-inch dia.
72 "	20 "
917 "	12 "
765 "	10 "
930 "	8 "
21,241 "	6 "

In the suburbs there have been laid by the Belleville

Township	19,804 feet.
By the Irvington Water Co	34,165 "

The total length of pipe connected with the work is as follows:

In the City	$204\frac{4536}{5280}$ miles.
In the Suburbs :	
Irvington Village (metered)	$6\frac{2483}{5280}$
Belleville " "	$6\frac{5340}{5280}$
Vailsburgh (Columbia Heights)	$1\frac{2695}{5280}$
In South Orange Avenue to Shooting Park	$\frac{1720}{5280}$
Clinton Township	$\frac{4800}{5280}$
Total	$221\frac{454}{5280}$ miles.

To replace smaller pipes there were relaid 2,672 feet of 6-inch pipe, and 560 feet of 8-inch pipe, a total of 3,232 feet.

The number of new hydrants set in the City during the year was 62, of which 28 on the Low Service, and 34 on the High Service. In Irvington 50 hydrants were set, and 28 in Belleville.

The total number of hydrants connected with the works at the end of the year were :

In the City 864 on the Low Service and 861 on the High Service, a total of	1,725	hydrants
At the Belleville Pumping Station	3	"
In Irvington	50	"
" Belleville	60	"
" Vailsburgh (Columbia Heights)	11	"
" " at Shooting Park	1	"
" Clinton Township	6	"
A total of	1,856	Hydrants.

The 24-inch main on Seventh Avenue, connecting the 36-inch conduit of the new water supply with the Low Service Reservoir was completed, and in South Orange Avenue, a 20-inch pipe was laid connecting the 20-inch Special High Service main in South Ninth Street, with the 24-inch effluent pipe from the High Service Reservoir. In this connection a check-valve was placed which is kept closed by the higher pressure of the Special High Service but would, in case of a sudden failure of the new water supply open and the latter service be fed from the reservoir. In the 20-inch pipe in Bank Street, connecting the Special High Service with the new water supply conduit in South 8th Street, a check-valve was inserted at the time the connection was made in 1891. This valve works in the opposite direction to the one in South Orange Avenue, the pressure of the new water supply keeps the valve open, and in case of a failure of the same, or a temporary shutting-off of the main conduit, the valve closes and separates the service from the conduit. The Special High Service district was extended last year, and now reaches as far North as Orange Street, it is bounded on the East by Third Street, Warren Street, Wallace Place, Wallace Street, Newton Street, Bedford, Sayre and Lillie Streets and Peshine Avenue. The maximum pressure on the service is now 70 lbs., and the change has given general satisfaction especially in the Roseville portion of the City.

A great number of the wooden stop-boxes have decayed, and cause considerable inconvenience and delay whenever the stops are to be used. They are gradually being renewed and I would recommend the use of boards prepared with creosote, such as are used for the sub-ways of the telephone line. The additional expense can not be large, while the boxes will be much more durable.

About one-fourth of the Hewes & Phillips hydrants, of which there are about 1,100 in use, need repairing. The jackets of most of these are also decaying, and in some instances so much so as to leave the iron tube entirely exposed, and should also be renewed.

In July the Board engaged the services of an electrical expert, Mr. Harold P. Brown, to examine into the action of the electrolysis on the water pipes and services, in the City. The expert made an examination along all the trolley lines in the City, and on August

8th presented an exhaustive report, pointing out the dangers of corrosion to the pipes and injury to the services. Both companies operating trolley lines in the City, the "Consolidated Traction" and the "South Orange," expressed their willingness to take any measures necessary to protect the pipes, and at their own expense. Mr. Brown devised a plan, and his recommendations were fully approved by the experts of both companies.

As the Consolidated Traction Co. was the worst offender, they were asked to make the first changes, and in October and November they put Mr. Brown's scheme into practice, with, as they report, perfectly satisfactory results.

The South Orange line is now making similar changes, and in a few weeks there will be no area left in the City where the pipes suffer from electrolytic corrosion.

In regard to the new Power House of the Consolidated Co., their manager has agreed that the laying out of the feeder-wires shall be subject to the approval of the City's expert, and their consulting engineer, and also that the same plan will be followed for pipe protection as at present.

Before, however, these changes were made, electrolysis had already begun its destructive work.

In November a number of service pipes on Belmont Avenue, on both sides of 18th Avenue, had to be renewed on account of leakage caused by decay of the pipes. It may be mentioned that the Power House of the Traction Co., is located on the corner of 18th Avenue and Boyd Street, a distance of about 400 feet from Belmont Avenue.

Complaints having been made at a meeting of the Board, the engineer of the department was directed, in conjunction with the expert, to make an examination of the services in that locality. Nine lead service-pipes were uncovered in Belmont Avenue, North and South of 18th Avenue, and all showed the unmistakable signs of electrolytic action, being covered with a white incrustation, in some parts ⅛ inch thick, which upon being removed showed plainly decay of the pipe A sample of this white crust or shale was sent to the chemist, Mr. Baldwin of this City, who pronounced it to be nearly 98% carbonate of lead.

Three joints of the 12-inch main in Belmont Avenue, and one hydrant branch, were also exposed in order to ascertain whether the iron pipe, or the lead joints of the same had also been affected. The lead joints showed slight but positive signs of the shale, but the iron pipe, as far as could be detected, showed no traces of injury.

The reports of the engineer, expert and the chemist, were presented on December 6th.

The number of fires during the past year has been unusually large, and complaints have been made in seven instances, by the fire underwriters of a lack of supply of water for fire protection.

Complaints of this nature have never before been made by the fire underwriters, but on a few occasions the Chief of the Fire Department has reported insufficiency of pressure and volume of water.

As a matter of course, allowance must be made for the massing of a number of fire engines within a comparatively small area, an emergency which might well over-tax the best regulated disbributing system, and against which it would be difficult to provide, and it must also be considered, that in the thinly populated outlying districts, comparatively few streets are, as yet, provided with street-mains, inasmuch as they have not, so far, been required. But in every one of the seven instances mentioned in the complaint of the fire underwriters, the small capacity of the mains were the chief cause of the insufficiency of supply.

There are still in use in the City, about 13½ miles of old pipe (a relic of the original distributing system of the old Newark Aqueduct Company,) about 40,000 feet of which are of 2-inch, 3-inch and 4-inch diameter, and having been cast horizontally, are of uneven thickness causing frequent breaks. These small pipes are distributed mainly throughout the central portion of the City, although in a few instances entire sections are provided with them, as for example the section bounded by Railroad Avenue, Market, Mulberry and Elm Streets.

About 12,000 feet of old pipe have been relaid within the last three years, in pursuance of a rule established by the Board in 1891, to the effect that the old pipe should be relaid in all streets newly re-paved with asphalt. Block-paving with concrete foundation was later included, 3,232 feet of which were relaid during the past year at a cost of about $1.00 per foot. However the 40 000 feet above referred to, ought also to be relaid with larger pipe regardless of street paving, and as soon as practicable. The 3-inch pipe in Broad Street, from Orange to Walnut Streets, and the 3-pipe in Market Street, should be relaid with 12-inch pipe, after which the old 10-inch and 12-inch pipes in those streets might be abandoned. The remainder of the old pipe still in use consists of about 2,300 feet of 12-inch, 15 700 feet of 10-inch, (in Broad, Market, High Streets and Eighth Avenue,) 2,400 feet of 8-inch, and about 12,200 feet of 6-inch pipe. After the smaller pipes have been relaid these should also be renewed as soon as possible. While the work is in progress every opportunity should be taken to lay secondary feeders, connecting with the main-feeders, in order to increase the volume of supply in the different sections. The 8-inch pipe laid in Railroad Avenue, (from Market to Green Streets,) in December last, will do good service, but it should be continued to Walnut Street, to connect with the 20-inch main in the same.

There are other parts of the City however in immediate need of larger feeders for fire protection. These are sections where a number of large factories are in close proximity, as for instance, in Ogden and Passaic Streets, and along the river front.

Two 8-inch pipes, connecting with the 24-inch main in Belleville Avenue, should be laid in Clark Street and also in Third Avenue, extending down to Passaic Street.

The greater part of this work is really necessary, the principal reason being to provide a more efficient service for fire protection, and also to do away with the old, weak and decayed pipes, but as it all has to be paid for from the income of the Board, it would take many years to accomplish it. The $20,000 appropriated annually for street-main extensions, are not available for relaying pipe, inasmuch as the sum is only intended for extensions of the distributing system, and is nearly all expended in the outlying parts of the City that are rapidly being built up, and barely suffices for the purpose.

It would therefore be necessary that a special appropriation should be made to enable the Board to carry on the work. Common Council has the power to make such appropriation, not-exceeding $50,000 in one year.

Real Estate.

The last lot fronting on Clifton Avenue, in Plot No. 13, was sold in May last for $600, and that amount has been paid into this office. The remainder of Plot No. 68, on Seventh Avenue near Clifton Avenue, was sold for $750. The deed for this lot has however not as yet been taken and remains in this office.

The south-west corner of Seventh Avenue and Summer Avenue, (part of Plot No. 6,) 75x120 feet, (part of the old Hay Market,) was transferred to the Police Board without any consideration for the location of the new Second Precinct Police Station. The value of this lot should be charged off the valuation of Plot No. 6, in the real estate record of the Board.

There remains in possession of the Board, but little real estate which is held for sale: in Plot No 13, a small lot about 52x19, in in the rear of 219 Eighth Avenue; the remainder of Plot No. 6 on

Summer Avenue, next to the new Police Station ; the so-called Brook Lot adjoining the canal between Orange Street and Sussex Avenue ; and two plots Nos. 28 and 29 on Fifth Avenue, between Lake and Pond Streets, and Pond and First Streets, extending 175 feet on each of the last named Streets.

The Storage Reservoir.

The building of the new Storage Reservoir in South Orange, for which plans and specifications were completed at the close of last year (1893,) is held in abeyance.

The New Water Supply.

The quality of the water during the past year has been satisfactory. The East Jersey Water Co. has furnished the Board with statements based upon their observations and measurements of the rain-fall, yield of the water-shed, and also the daily consumption. It has from the very first been urged, both by the Engineer and Consulting Engineer, that the Board should take its own observations and measurements, and inasmuch as only five years remain until the works are to be taken by the City, it is of the greatest importance that this matter should no longer be deferred.

The East Jersey Water Company is now perfecting the two Venturi meters on the 48-inch and 36-inch conduits, near the Belleville Reservoir, and the meters will probably be ready for use soon after the frost is out of the ground. The City will then be able to take its own readings of the quantity of water supplied for both High and Low Services.

Respectfully submitted,

CHAS. E. A. JACOBSON,
Eng. Dept. of Water.

J. C. MUNDY,
Genl. Supt.

Clerk's Report.

BOARD OF STREET AND WATER COMMISSIONERS
OF THE CITY OF NEWARK,
DEPARTMENT OF WATER.

To the Honorable, the Mayor and Common Council of the City of Newark.

GENTLEMEN:—In accordance with Section 20 of the law creating the Board of Street and Water Commissioners of the City of Newark, which requires me to make a report of the receipts and expenditures at the close of each fiscal year, I herewith submit the following as my report of the Department of Water for the year ending December 31st, 1894.

Cash Balance, December 31st, 1893, - -	$170,811 76
Receipts from all sources, - - - - - -	595,446 24
	$766,258 00
Less Disbursements on all accounts, - -	601,241 67
Balance, December 31st, 1894, - - - - -	$165,016 33

A. M. LINNETT,
Clerk of the Board.

FINANCIAL STATEMENTS.

TRIAL BALANCE.

DECEMBER 31, 1894.

Cash	$165,016 33	
Coupon Bonds		$2,710,000 00
Registered Bonds		782,000 00
Coupon Payable		35 00
National State Bank	35 00	
Real Estate No. 1	26,964 15	
do " 2	3,696 15	
do " 3	2,545 48	
do " 4	10 50	
do " 5	750 00	
do " 6	13,177 00	
do " 7	500 00	
do " 10	2,360 00	
do " 11	10,456 36	
do " 12	12,134 90	
do " 13	6,692 65	
do " 15	55 42	
do " 16	6,000 00	
do " 17	12,500 00	
do " 18	1 00	
do " 19	500 00	
do " 20	100 00	
do " 21	500 00	
do " 22	3,290 04	
do " 23	500 00	
do " 24	4,880 00	
do " 25	4,300 00	
do " 26	2,660 00	
do " 27	625 00	
do " 28	3,550 00	
do " 29	4,200 00	
do " 30	9,196 00	
do " 31	3,800 85	
do " 32	9,380 00	
do " 33	6,738 00	
Amount forward	$317,114 83	$3,492,035 00

Amount brought forward	$ 317,114 83	$3,492,035 00
Real Estate, No. 34	9,000 00	
do " 36	1,201 00	
do " 37	1 00	
do " 38	1,400 00	
do " 39	4,250 00	
do " 44	15,375 00	
do " 46	3,713 02	
do " 53	21,477 07	
do " 54	9,393 89	
do " 55	4,696 95	
do " 56	11,883 64	
do " 57	1,693 92	
do " 58	5,101 69	
do " 59	532 50	
do " 60	11,113 86	
do " 61	450 00	
do " 62	339 00	
do " 63	389 55	
Appropriation Extension of Street Mains		20,000 00
Street Mains, General Account	1,421,217 02	
Street Mains of 1894	19,267 21	
Street Mains, Stock and Material	3,581 68	
General Supplies		316 52
Belleville Pump House	56,309 39	
do Boiler House Extension	2,387 76	
do Pumping Engine No. 1	55,909 73	
do do " 2	55,591 95	
do do " 3	78,918 29	
do do " 4	42,607 54	
New Boilers, Belleville	15,638 31	
New Chimney, do	10,057 24	
Belleville Engineer's and Firemen's Dwellings	22,696 52	
River Wall, Dock and Basins	266,112 99	
Receiving Reservoir, Belleville	133,645 05	
Keeper's House, Receiving Reservoir, Belleville	3,192 60	
Driven Wells, Belleville	10,568 76	
Caisson Wells, do	2,453 80	
Pump Main, No. 1	92,552 57	
do " 2	47,353 54	
Supply Main, No. 1	152,998 38	
do " 2	81,643 96	
Section "A" Supply Main No. 2	49,998 90	
High Service Engine House	27,847 44	
do do Extension	5,417 70	
do Pumping Engine No. 1	21,407 40	
do do " 2	21,630 22	
do do " 3	19,874 81	
do Reserve Pumps	12,609 26	
New Boilers, Clifton Ave	6,349 82	
High Service Reservoir, S. Orange Ave	94,585 27	
Low do do Seventh Ave	304,039 20	
Amount forward	$3,557,591 23	$3,512,351 52

Amount brought forward	$3,557,591	23	$3,512 351	52
Branch Brook Reservoir, Seventh Ave	54,294	15		
Twelfth Ward Feeder	7,151	67		
Extra High Service	33,704	60		
High Service and Belleville Machinery Stock and Fixtures	2,926	38		
Stable Stock and Fixtures	5,619	49		
Office Furniture, Fixtures, &c	3,756	25		
Hydrant Account			383	28
Water Meter Account	21,115	74		
Bond and Mortgage	4,670	00		
Distributing Main No 2	63,612	00		
Regular High Service Feeder No. 2	13,096	01		
Forest Hill Feeder	6,868	29		
High Service Fuel Account	1,822	32		
do Engine Stores	234	05		
do Engineer's and Firemen's Wages	3,747	50		
Belleville Fuel Account	6,713	41		
do Engine Stores	392	00		
do Engineer's and Firemen's Wages	4,410	22		
Plumbing Supplies	117	36		
Sinking Fund Account	129,000	00		
Expense Account	13,734	69		
Salaries	15,979	98		
Inspection	11,026	00		
Engineering	5,263	16		
Interest, Coupon Bonds	276,200	00		
" Registered Bonds	44,155	00		
Insurance	321	25		
Interest, General Account			36	00
Maintenance, do	8,702	21		
do Reservoirs and Grounds	9,114	40		
do Pure Water	14	06		
do New Water Supply	3,364	57		
Repairs, Street Mains	5,020	64		
do Hydrants			51	80
do Real Estate, No. 1	316	45		
do do Tenements & General	213	79		
do Engineer's & Firemen's Dwellings.	206	42		
do Keeper's House, Belleville	24	30		
do Drinking Fountains	56	33		
do Water Meters			23	86
do Belleville Pump House	120	67		
do River Wall, Dock and Basins	576	96		
do High Service Pump House	48	86		
do Belleville Pumps, Boilers and General	191	79		
Repairs, High Service, Pumps, Boilers and General	32	00		
Setting Meters	3	38		
Service Account			1,097	74
Repairs, Tools	354	12		
Amount forward	$4,315,883	76	$3,513,944	20

Amount brought forward	$4,315,883 76	$3,513,944 20
Loss and Gain		39,885 02
Water Rents, Income Account		533,127 69
Penalties, Fines, &c		3,246 96
Rents, Real Estate		536 80
Plumbers' Drafts		178 50
Collection Account, Advance Water Rents	51,405 84	
do Services	3,238 60	
do Fractional Water Rents	785 90	
do Miscellaneous do	31,103 15	
Sundry Personal Accounts	32,941 47	
Surplus and Deficiency Account		344,439 55
	$4,435,358 72	$4,435,358 72

STATEMENT A.

CONSTRUCTION.

Belleville Pump House	$	56,309	39
do Boiler House Extension		2,387	76
do Engineer's and Firemen's Dwellings		22.696	52
New Chimney, Belleville		10,057	24
Keeper's House		3.192	60
Belleville Pumping Engine No. 1		55,909	73
do do " 2		55,591	95
do do " 3		78,918	29
do do " 4		42,607	54
New Boilers, Belleville		15,638	31
Receiving Reservoir, Belleville		133,645	05
River Wall, Dock and Basins		266,112	99
Driven Wells		10,568	76
Caisson Well		2,453	80
High Service Engine House		27,847	44
do do Extension		5,417	70
New Boilers, Clifton Ave		6,349	82
High Service Pumping Engine No. 1		21,407	40
do do " 2		21,630	22
do do " 3		19,874	81
do Reserve Pumps		12,609	26
do Reservoir		94,585	27
Low Service do		304,039	20
Branch Brook do		54,294	15
Street Mains, General		1,440,484	23
Pump Main, No 1		92,552	57
do " 2		47,353	54
Supply Main, No 1		152,998	38
do " 2		81,643	96
do " 2 Section "A"		49,998	90
Twelfth Ward Feeder		7,151	67
Distributing Main, No. 2		63.612	00
Extra High Service		33,704	66
Regular High Service Feeder, No. 2		13,096	01
Forest Hill Feeder		6,868	29
	$	3,313,609	41

STATEMENT B.

GENERAL STOCK AND PROPERTY.

Street Mains Stock and Material	$ 4,836	66
General Supplies	245	81
High Service and Belleville Machinery and Fixtures	2,519	12
Office Furniture, Fixtures and Fittings	3.798	75
Stable, Stock and Fixtures	4 978	49
Hydrant Stock	838	90
Service Stock	261	19
Belleville Fuel Account	7,594	90
do Stores	54	36
High Service Stores	24	56
Water Meter Stock	710	96
Insurance	309	25
Bond and Mortgage	4,670	00
Real Estate General	254,075	59
	$284,918	54

STATEMENT C.

ACCOUNTS DUE THE BOARD.

Advance Water Rent Account			$ 51,405 84
Fractional	do	do	785 90
Building	do	do	62 13
Special	do	do	702 24
Arrears	do	do	13,068 48
Measured	do	do	17,270 30
Service Charges			3,238 60
Sundry Personal Accounts			32,941 47
			$119,474 96

STATEMENT D.

MAINTENANCE AND REPAIRS OF WORKS.

Maintenance General	8,702 21
do Reservoirs, Grounds and General	9,114 40
do Pure Water	14 06
do New Water Supply	3,364 57
Repairs of Street Mains	5,020 64
do Real Estate, No. 1	316 45
do do Tenements and General	213 79
do Engineer's and Firemen's Dwellings	206 42
do Keeper's House, Belleville	24 30
do Belleville Pump House	120 67
do H. Service do	48 86
do Belleville Pumps, Boilers and General	191 79
do River Wall, Dock and Basins	576 96
do H. Service Pumps, Boilers and General	32 00
do Tools	354 12
Setting Meters	3 38
Plumbing Supplies	117 36
	$28,421 98

ASSETS AND LIABILITIES.

Construction	$3,313,609 41	
General Stock and Property	284,918 54	
Anticipated Assets	119,474 96	
Coupon Trust Fund	35 00	
Cash	165,016 33	
Coupon Bond Account		$2,710,000 00
Registered do		782,000 00
Coupons Payable		35 00
Plumbers' Drafts		178 50
Loss and Gain Account		390,840 74
	$3,883,054 24	$3,883,054 24

STATEMENT.

FUND FOR THE CONSTRUCTION OF A STORAGE RESERVOIR.

CASH.

		DR.	CR.
Balance Forward, Dec 31st, 1893		$18,788 98	
From Interest on Investments	$ 9,175 00		
" " " Deposits	145 79		
" General Sales and Rents	231 25		
" Payment Temporary Loan	20,000 00	29,552 04	
Total Disbursements for year			$24,975 34
Balance to credit of account with City Treasurer, December 31st, 1894			23,365 68
		$48,341 02	$48,341 02

TRIAL BALANCE.

		DR.	CR.
Bond Account		$148,000 00	
Real Estate Account, Ivy Hill Property	$81,828 40		
Real Estate Account, Belleville Property	13,965 35	95.793 75	
Cash Account		23,365 68	
Storage Reservoir Account			$267,159 43
		$267,159 43	$267,159 43

REAL ESTATE AND SECURITIES.

Registered Newark City Water Bond,			No. 9	$ 50,000 00
do	do	do	" 10	6,000 00
do	do	do	" 28	50.000 00
do	do	do	" 86	15,000 00
do	do	do	" 87	12,000 00
do	do	do	" 88	15.000 00
Real Estate Ivy Hill, S. Orange, N. J				81,828 40
do Belleville, N. J				13,965 35
				$243.793 75

RECEIPTS AND EXPENDITURES FROM JANUARY 1st, 1894, to JANUARY 1st, 1895.

RECEIPTS.

Balance forward, Jan. 1st, 1894		$170,811 76
Advance Water Rent Collection	$370,006 03	
Fractional do	1,587 65	
Hose do	7,552 00	
Miscellaneous do	140,542 03	
Service Collection Account	15,633 35	
Sale of Real Estate	600 00	
Rents do	536 80	
Sale of old Iron	102 42	
Sales on Service Account	50 00	
Penalties and Fines	3,246 96	
Interest Bond and Mortgage	36 00	
Temporary Loan Bond	20,000 00	
Sundry Personal Accounts	15,553 00	
Appropriation on Account of extension of Street Mains, 1894, from City of Newark	20,000 00	
		$595,446 24
		$766,258 00

EXPENDITURES.

Labor and Cartage on account of Street Mains of 1894	$ 6,737 85	
Street Mains, Stock and Material	17,657 28	
Engineering	5,263 16	
Service Account	15,700 10	
Inspection	11,026 00	
Expense Account	13,732 47	
Belleville Engine Stores	190 20	
do Engineer's and Firemen's Wages	4,410 22	
do Fuel Account	20 06	
High Service Engine Stores	153 12	
do Engineer's and Firemen's Wages	3,747 50	
do Fuel Account	1,641 25	
Water Meter Account	3,084 70	
General Supplies	132 58	
Plumbing Supplies	120 04	
Forest Hill Feeder	151 12	
New Water Supply	3,503 00	
Salaries	15,979 98	
Registered Bond Interest	44,155 00	
Coupon do	276,200 00	
Sinking Fund Account	129,000 00	
Amount forward		$552,605 63

EXPENDITURES—CONTINUED.

Amount brought forward		$552,605 63
Insurance	309 25	
Regular High Service Feeder, No 2	3,864 75	
Hydrant Account	2,700 00	
Setting Meters	3 38	
Payment Temporary Loan	20,000 00	
Loss and Gain	7 50	
Maintenance Reservoirs and Grounds	9,557 32	
do General	6,766 32	
do Pure Water	14 06	
Repairs, Tools	354 12	
do Meters	498 87	
do Hydrants	53 45	
do Street Mains	2,502 56	
do Real Estate, No. 1	320 66	
do Belleville Pumps, Boilers and General	106 32	
do Engineer's and Firemen's Dwellings	206 42	
do Drinking Fountains	266 28	
do High Service Pump House	48 86	
do Belleville Pump House	120 67	
do H. S. Pumps, Boilers and General	32 00	
do Keeper's House, Belleville	19 68	
do River Wall, Dock and Basins	576 96	
do Real Estate, Tenements and General	221 14	
do Belleville Pumps, Boilers and General	85 47	$ 48,636 04
		$601,241 67
Balance carried forward Jan. 1st, 1895.		165,016 33
		$766,258 00

STATEMENT OF STREET MAINS LAID DURING THE YEAR ENDING DECEMBER 31st, 1894.

		FEET	COST
Jan. 1894	Labor on Account Street Mains, 1893......		$ 153 72
March	Six inch main........................... Elm Road, from Houston Street to Ferdon Street, and in Ferdon St. east to Ave. "I."	1,269	888 44
March	Six inch main........................... Fourth Ave., from Belleville Ave. to Broad Street..............................	261	218 42
April	Six inch main........................... Frelinghuysen Ave., from Clifton Ave. to Runyon Street, and in Runyon Street from Frelinghuysen Ave., west 100 feet	762	535 04
April	Six inch main .... Fifth Street, from Fifth Ave. north to dead end, south of 2nd Ave..................	2,377	1,622 85
April	Six inch main .... Seventh Ave., from Roseville Ave. to North 7th Street..........................	340	251 70
April	Six inch main......................... North 6th Street, from Second Ave. south...	392	280 12
April	Ten inch main........................... Clifton Ave., from Ellwood to Fredonia Ave.	711	
	Six inch main........................... Fredonia Ave., from Clifton Ave. to Ridge Street..............................	285	1.113 60
April	Six inch main.................. .... Fifth Ave., from Clifton Ave. to Ridge Street and from Lake to Third Street.........	1.338	991 59
April	Six inch main........ .... Skinkle Street, from Kent to South 10th Streets.............................	506	308 77
April	Six inch main........................... Bleecker Street, from present terminus to Summit Street.........................	165	288 50
	Amount forward.........................		$6,652 75

STATEMENT OF STREET MAINS LAID—CONTINUED.

		FEET	COST
	Amount brought forward......................		$ 6,652 75
May 1894	Six inch main......................... Pennington Street, from Pacific to Dawson Streets............................	554	386 69
May	Six inch main......................... Frederick Street, from Market Street to Passaic Ave..........................	676	437 60
May	Six inch main......................... South 11th Street, from 17th to 16th Aves...	837	538 71
May	Six inch main......................... Bergen Street, from Waverly Place to Winans Ave., and from Rose Street to Avon Ave..........................	1,111	800 78
June	Twelve inch main...................... South 10th Street, from Springfield Ave. to Skinkle Street.........................	489	732 46
June	Six inch main......................... Springfield Ave., from South 19th Street to the City Line.......................	428	388 14
June	Six inch main......................... Bank Street, from South 10th Street to South 11th Street, and in South 11th Street from 13th to 11th Aves., and from dead end south of Springfield Ave. to Woodland Ave..............................	2,391	1,517 51
June	Six inch main......................... South Orange Ave., from Littleton Ave. to 6th Street............................	274	660 38
June	Six inch main......................... Emmett Street, from Ave "C" to Goble Street................................	515	422 10
June	Six inch main......................... Duryee Street, from Central Ave. north.....	272	249 82
July	Six inch main......................... Lake Street, from Ellwood Ave. to Grafton Ave................................	1,436	912 86
	Amount forward...........................		$13,699 80

STATEMENT OF STREET MAINS LAID—CONTINUED.

		FEET	COST
	Amount brought forward		$13,699 80
July 1894	Six inch main Nevada Street, from Marshall Street, south	172	176 73
July	Six inch main Oraton Street, from dead end north of Delavan Ave to a point north of Ellwood Ave	346	276 73
July	Twelve inch main Belmont Ave, from Bigelow Street, south	428	642 45
August	Six inch main Fifteenth Ave., from South 14th Street to South 15th Street	226	179 71
August	Six inch main Heller Parkway, from Highland Ave. to Lake Street	264	201 35
October	Six inch main North 6th Street, from Fifth to Fourth Aves.	826	532 17
October	Six inch main Cutler Street, from Seventh to Sixth Aves.	760	488 45
October	Six inch main Woodland Ave., from Pierce Street east to South 13th Street, and South 13th Street south about 100 feet	301	295 38
October	Six inch main Grafton Ave., from DeGraw Ave. to First Street	218	173 01
October	Six inch main South 13th Street, from Springfield Ave. to Eighteenth Ave	538	320 79
October	Two inch main laid under the sidewalk Gould Ave., from 11th Street, west	86	67 40
Nov.	Six inch main Ridge Street, from 6th Ave., north	532	470 38
	Amount forward		$17,524 35

STATEMENT OF STREET MAINS LAID—CONTINUED.

		FEET	COST
	Amount brought forward		$17,524 35
Nov. 1894	Six inch main Heller Parkway, from Lake Street to DeGraw Ave	260	182 01
Nov.	Six inch main Sherman Ave., from Earl Street to Hunter Street	513	375 03
Dec.	Eight inch main New Jersey Railroad Ave., from Green Street to Alling Street	930	1,182 63
Dec.	Six inch main Passaic Street and Carlisle Place		3 19
			$19,267 21

REPAIRS AND RELAYING OF STREET MAINS.

Jan. 1894.	—Relaid 6-inch main, James Street from High to Boyden Streets, Labor and material..........	$ 755 26
"	—Repaired 4-inch main, James Street above High Street, material..........................	4 64
"	—Renewed stop box.	
	Center and Market Streets......................	90
Feb. 1894.	—Repaired 6-inch main, crossing the canal at Fifth Avenue, material............................	16 25
"	—Renewed stop boxes.	
	Eight Avenue and Broad Street	
	Seventh " " " "	20 00
Mar. 1894.	—Repaired 4-inch main, Camp Street near Mulberry Street.....................................	6 11
"	—Renewed stop boxes.	
	Jones and Sheffield Streets.......................	
	South Orange Avenue and Gate House............	10 90
April 1894.	—Renewed stop boxes.	
	Opposite No. 517, 545 and 575 South 10th Street..	
	Sheffield and Nassau Streets......................	
	Clifton Avenue and Ridge Street.................	
	Fifth " " " "	
	Brenner and Kent Streets..........................	
	Kent Street and 18th Avenue.....................	
	Central Avenue and Summit Street..............	18 00
May 1894.	—Repaired 6-inch main, Clinton Avenue and High Street..	7 01
"	—Renewed stop boxes.	
	South 10th Street and 18th Avenue...............	
	" " " " Blum Street.................	
	" " " " South Orange Avenue.......	
	13th Avenue and Wickliffe Street.................	
	Clinton Avenue and Broad Street.................	
	Broad and Chestnut Streets.......................	
	Broad and Market Streets.........................	
	Summer Avenue and Irving Street................	
	" " " Mt. Clair Avenue...........	
	At Bridge crossing Second River.................	
	Mulberry and Mechanic Streets...................	
	Mulberry and Market Streets.......................	
	Clinton Avenue and Astor Street	12 60
June 1894.	—Cutting out 4-inch main, and transferred taps on main Railroad Place, between River and Commerce Streets...............................	5 10
	Amount forward......................	$ 856 77

	Amount brought forward	$ 856 77
June 1894.	—Repaired 2-inch main, Elm Street south of Columbia Street, Labor only	
"	—Repaired 4-inch main, Broad Street crossing the canal, Labor only	
"	—Putting in new 6 inch stop, South Orange Avenue and Seventh Street, material	26 08
"	—Renewed stop boxes.	
	South Orange Avenue and Rutgers Street	
	" " " Wallace "	
	" " " Hunterdon "	
	" " " Jones "	
	Springfield Avenue and South 10th Street	
	Broad Street east of M. & E. R. R. Avenue	
	James Street and Summit Street	
	" " Boyden "	
	High and Market Streets	
	Paterson Street and Hamburg Place	
	South Orange Avenue and South 6th Street	
	Drift and Factory Streets	
	Emmet and Mulberry Streets	
	Avenue "C" and Astor Streets	
	Orange and Broad Streets	
	Camden and Cabinet Streets	26 70
July 1894.	—Relaying 6-inch main, Camp Street from Orchard to Mulberry Streets, Labor and material	410 17
"	—Repaired 6-inch stop.	
	Market and Bowery Streets	
	New and Newark Streets	
"	—Repaired 6-inch main, Broad Street north Belleville Avenue	3 00
"	—Putting in two 6-inch stops, Marshall Street north of Halsey Street, Marshall south of Halsey Street	45 12
"	—Renewed stop boxes.	
	Hunterdon Street and South Orange Avenue	
	Belmont Avenue and West Kinney Street	
	Charlton Street " "	
	Prince " " "	
	Market and Mulberry Streets	
	South Orange and Fairmount Avenues	
	Boston Street and 13th Avenue, west side	
	Thirteenth Avenue and Boston Street, north side	
	Clark and Broad Streets	
	Charlton and Montgomery Streets	
	West Kinney and Boyd Streets, west side	
	Amount forward	$1,367 84

	Amount brought forward	$1,367 84
July 1894.	—Charlton and West Kinney Streets, south side	
	Prince and Morton Streets, south side	
	Charlton and Morton Streets, north side	
	Broome and Court Streets	
	Mercer and Springfield Avenues	
	Springfield Avenue and Jones Street, west side	
	West Park and Broad Streets	
	Fourth Avenue and Broad Street	
	Sixth Street and South Orange Avenue	
	Eigth " " "	
	Congress and Market Streets	
	Madison " "	
	Adams " "	31 60
Aug. 1894.	—Repaired 6-inch stop on main at Springfield Avenue and Prince Street	
"	—Recalked joint 6-inch main, 18th Street near Avon Avenue	
"	—Repaired 4-inch main, Parker Street opp. No. 860.	4 59
"	—Repaired 6-inch main, N. J. R. R. Avenue opp. No. 17	6 20
"	—Repaired 3-inch main, Wilbur Alley	6 15
"	—Repaired 4-inch main, Burnet Street opp. No. 33	5 28
"	—Renewed stop boxes.	
	South Orange Avenue and South 9th Street	
	Sixth and Clifton Avenues	
	South Orange Avenue and 7th Street, south side	
	" " 9th " " "	
	Wilsey and New Streets	
Aug. 1894.	—Second and Mt. Pleasant Avenues	
	Bloomfield Avenue and Stone Street	
	Jackson Lane, Belleville	
	Orange and Fourth Streets	18 10
Sep. 1894.	—Repaired 4-inch main, Broad and Orange Streets	5 78
"	—Renewed stop boxes.	
	Broad and Orange Streets	
	Morris and 13th Avenues	
	Bank and Rutgers Streets	
	Market and Commerce Streets	
	Main and Ferry Streets	
	Freeman and Ferry Streets	
	Market and Plane Streets	
	Hawkins and Ferry Streets	
	Plane and Academy Streets	
	" Campbell Streets	
	Bloomfield Avenue, William and Arlington Streets	9 90
	Amount forward	$1,455 44

	Amount brought forward	**$1,455**	**44**
Oct. 1894.	**—Relaid 6-inch main in Academy Street, from Broad to Plane Streets, Labor and material**	**1,221**	**59**
“	**—Repaired 4 inch main, Morris Avenue near 17th Street**	**6**	**62**
“	**—Repaired 6 inch main, Springfield Avenue and 13th Street**	**15**	**53**
“	**—Putting in new 6-inch stop, Sussex Avenue east of Third Street**	**26**	**45**
“	**—Putting in new 6-inch stop, 13th Avenue east of Wallace Street**	**26**	**18**
“	**—Putting in new 6-inch stop, 15th Avenue east of Bedford Street**	**26**	**30**
“	**—Renewed stop boxes.**		
	Railroad Avenue and Commerce Street		
	Plane and Bank Streets		
	Chapel Court and William Street		
	Freeman and Ferry Streets		
	17th and Morris Avenues		
	Union and Ferry Streets		
	14th and Springfield Avenues		
	Brill and Ferry Streets		
	Plane and New Streets		
	Franklin and Broad Streets		
	Broad Street opp. No. 882		
	Second and Wakeman Avenues		
	“ Summer Avenues	11	70
Nov. 1894.	—Putting in new 6-inch stop, 17th Avenue east of Lillie Street	26	15
“	—Repaired 4 inch main, Broad Street under the Canal Bridge	20	12
“	—Putting in new 6-inch stop, Columbia and Elm Streets	28	58
“	—Putting in new 6 inch stops, Clinton Avenue and Monmouth Street, Clinton Avenue and Quitman Street	51	30
“	—Relaid 6-inch main in Elm Street, from Mulberry to Columbia Streets, Labor and material	375	22
“	—Renewed stop boxes.		
	Third and Orange Streets		
	Orleans and Warren Streets		
	Clifton and Sixth Avenues		
	Ridge Street and Sixth Avenue		
	Union and Elm Streets		
	Mt. Prospect and Second Avenues		
	Garside Street “ “		
	Orange Street west of Eagles Street		
	Front and Centre Streets		
	Broad Street and Belleville Avenue		
	Hunterdon and Bank Streets		
	Amount forward	$3,291	18

	Amount brought forward	$3,291 18
Nov. 1894.	—Front Street opp. Ballantine Brewery	
	" and Rector Street	
	Orange Street west of Ogden Street	
	Ogden " " Division "	
	Fifth " north of Orange "	
	Roseville Avenue north of Orange Street	
	Fourteenth Street south of Orange Street	
	Thirteenth Street south of Warren Street	
	Warren and Orange Streets	
	Sixth Street south of Orange Street	
	Myrtle Avenue south of Orange Street	
	Humboldt Street east of Warren Street	
Nov. 1894.	—Warren Street north of Sussex Avenue	
	Mt. Prospect and Second Avenues	
	Bleeker Street west of Plane Street	
	Liberty and Hamilton Streets	
	N. J. R. R. Avenue and Green Street	
	Central Avenue and Plane Street	
	Thomas and Broad Streets	28 80
Dec. 1894.	—Recalked joint 6-inch main, Union Street opp. No. 50.	
	Van Buren Street corner Lafayette Street	
"	—Packed stops.	
	Baldwin and High Streets	
	Clifton Avenue opp. Pump House	
"	—Renewed stop boxes.	
	Baldwin and High Streets	
	Wright Street south of Clinton Avenue	
	Governor Street west of Washington Street	
	Longworth " " "	3 60
"	—Repaired 3-inch main, Columbia Street near Green Street	6 39
"	– Repaired 6 inch main, High Street between Orange Place and M. & E. R. R. Avenue	8 30
"	—Repaired 6 inch main, Broad and Camp Streets	6 60
"	—Put in new 6 inch stop, Clinton Avenue south of Washington Street	23 74
"	—Renewed stop box at William and Arlington Streets	16 84
"	—Relaid 8-inch main in Alling Street, from N. J. R. R. Avenue to Market Street, Labor and material	698 34
"	—Labor and cartage repairing street mains	936 85
		$5,020 64

SERVICES FROM JANUARY 1st, 1894, TO JANUARY 1st, 1895.

⅝-INCH SERVICES. MONTHS.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No of Taps and B'xes Only	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe	CHARGES.
January, 1894	40	..	..	..	1	41	825	$ 603 00
February, "	19	..	..	..	..	19	369^2	287 56
March, "	100	..	..	1	1	97	1,927	1,508 20
April, "	94	3	..	..	1	95	1,855^2	1,456 00
May, "	84	2	..	1	..	85	1,883	1,301 96
June, "	131	17	1	1	2	135	3,130^2	2,203 16
July, "	75	2	..	..	1	76	1,591	1,155 36
August, "	71	..	..	1	..	72	1.600^2	1,099 00
September, "	67	..	..	4	3	74	4,560	1,044 00
October, "	93	1	..	..	1	94	2,114	1,409 00
November, "	96	3	..	..	1	97	1,995	1,477 00
December, "	68	..	..	1	1	70	1,599	1,032 00
Totals	938	30	1	9	12	955	23.450	$14.576 24

SERVICES FROM JANUARY 1st, 1894, TO JANUARY 1st, 1895.

1-INCH SERVICES. MONTHS.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No. of Taps and B'xes Only	No. of Boxes Only.	No. of New Water Takers.	No of Feet of Pipe	CHARGES.
January, 1894	1	..	..	..	..	1	13^{2}	$ 23 00
February, "	1	..	..	..	..	1	16	23 00
March, "	3	..	..	..	..	3	70	69 00
April, "	2	..	1	..	..	3	40^{2}	51 00
May, "	2	..	..	..	..	2	43	50 60
June, "	6	1	..	..	..	6	164^{2}	164 00
July, "	2	..	..	..	..	2	51	46 00
August, "	5	1	..	..	..	5	156^{2}	134 00
September, "	5	..	..	..	..	5	134	115 00
October, "	2	..	..	..	..	2	41	46 00
November, "	1	..	..	..	..	1	11	23 00
December, "	6	..	..	..	..	6	121^{2}	140 00
Totals	36	2	1	..	..	37	862^{2}	$884 60

RECAPITULATION.

SIZES.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No. of Taps and B'xes Only	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe.	CHARGES.
⅝ inch	938	30	1	9	12	955	23,450	$14,576 24
1 "	36	2	1	..	..	37	862^{2}	884 60
Totals	974	32	2	9	12	992	$24{,}312^{2}$	$15,460 84

SERVICES FROM JANUARY 1st, 1894, TO JANUARY 1st, 1895.

⅝-INCH SERVICES. MONTHS.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No of Taps and B'xes Only	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe	CHARGES.
January, 1894	40	..	..	..	1	41	825	$ 603 00
February, "	19	..	..	..	..	19	369^2	287 56
March, "	100	..	..	1	1	97	1,927	1,508 20
April, "	94	3	..	..	1	95	$1,855^2$	1,456 00
May, "	84	2	..	1	..	85	1,883	1,301 96
June, "	131	17	1	1	2	135	$3,130^2$	2,203 16
July, "	75	2	..	..	1	76	1,591	1,155 36
August, "	71	..	..	1	..	72	1.600^2	1,099 00
September, "	67	..	..	4	3	74	4,560	1,044 00
October, "	93	1	..	..	1	94	2,114	1,409 00
November, "	96	3	..	..	1	97	1,995	1,477 00
December, "	68	..	..	1	1	70	1,599	1.032 00
Totals	938	30	1	9	12	955	23.450	$14.576 24

SERVICES FROM JANUARY 1st, 1894, TO JANUARY 1st, 1895.

1-INCH SERVICES. MONTHS.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No. of Taps and B'xes Only	No. of Boxes Only.	No. of New Water Takers.	No of Feet of Pipe	CHARGES.
January, 1894	1	..	..	..	..	1	13^{2}	$ 23 00
February, "	1	..	..	..	..	1	16	23 00
March, "	3	..	..	..	..	3	70	69 00
April, "	2	..	1	..	..	3	40^{2}	51 00
May, "	2	..	..	..	..	2	43	50 60
June, "	6	1	..	..	..	6	164^{2}	164 00
July, "	2	..	..	..	..	2	51	46 00
August, "	5	1	..	..	..	5	156^{2}	134 00
September, "	5	..	..	..	..	5	134	115 00
October, "	2	..	..	..	..	2	41	46 00
November, "	1	..	..	..	..	1	11	23 00
December, "	6	..	..	..	..	6	121^{2}	140 00
Totals	36	2	1	..	..	37	862^{2}	$884 60

RECAPITULATION.

SIZES.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No. of Taps and B'xes Only	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe.	CHARGES.
⅝ inch	938	30	1	9	12	955	23,450	$14,576 24
1 "	36	2	1	..	..	37	862^{2}	884 60
Totals	974	32	2	9	12	992	$24,312^{2}$	$15,460 84

NEW WATER METERS SET FROM JANUARY 1st, 1894, TO JANUARY 1st, 1895.

MONTHS.	CROWN METERS.			WORTHINGTON METERS.					
	5/8-inch.	3/4-inch.	1-inch.	5/8-inch.	1-inch.	1½-inch	2-inch.	3-inch.	TOTALS.
January, 1894	4	..	1	..	1	..	1	..	7
February, "	5	..	1	..	..	..	..	..	6
March, "	3	..	3	2	1	..	..	..	9
April, "	4	..	2	3	..	1	..	1	11
May, "	14	1	2	1	1	..	..	..	19
June, "	9	..	2	2	1	..	..	1	15
July, "	17	..	3	..	1	..	..	.	21
August, "	6	..	2	1	..	..	1	1	11
September, "	4	1	1	4	..	..	..	..	10
October, "	7	..	2	1	..	1	..	..	11
November, "	9	2	..	1	..	..	..	..	12
December, "	6	..	2	..	..	..	..	..	8
Totals	88	4	21	15	5	2	2	3	140

CONNECTIONS MADE FROM JANUARY 1st, 1894, TO JANUARY 1st, 1895.

MONTHS.	2-inch.	3-inch.	6-inch.	8-inch.	TOTALS.
January, 1894	..	..	..	..	..
February, "	..	..	..	..	..
March, "	..	..	..	..	..
April, "	..	..	1	..	1
May, "	..	1	..	..	1
June, "	..	1	..	..	1
July, "	..	..	..	.	..
August, "	1	1	..	1	3
September, "	..	..	..	..	..
October, "	..	..	..	..	..
November, "	..	..	..	..	..
December, "	..	..	..	..	..
Totals	1	3	1	1	6

RECAPITULATION OF INVENTORIES,

DECEMBER 31st, 1894.

No. 1.	Street Mains, Stock and Material Inventory	$ 4,836	66
No. 2.	General Supplies Inventory	245	81
No. 3.	Belleville and High Service Inventories	2,519	12
No. 4.	Office Inventory	3,798	75
No. 5.	Stable Inventory	4,978	49
No. 6.	Hydrant Inventory	838	90
No. 7.	Service Inventory	261	19
No. 8.	Belleville Fuel and Stores Inventory	7,649	26
No. 9.	High Service Fuel and Stores Inventory	24	56
No. 10.	Water Meters and Fittings Inventory	710	96
		$25,863	70

CONSUMPTION STATEMENT FOR THE YEAR ENDING DECEMBER 31st, 1894.

MONTHS.	Total Consumtn per month mill gall	Average daily Consumtn. mill. gall.	No. of Taps at beginning each mon'h	No. of Gallons per Tap.	Mean Temperature.	Rainfall Inches.	REMARKS.
Jan., 1894...	612.3	19.8	27,565	718	34°5	1.92	
Feb., " ...	590 8	21.1	27,603	764	29°4	5 10	
Mar., " ..	598.4	19.3	27.624	698	44°0	1.04	
April, " ...	590.7	19.7	27,725	711	40°6	2.02	Total rainfall for the year—41.15 inches.
May, " ...	615 9	19.9	27,718	715	61°8	4.13	
June, " ...	605.0	20.2	27,905	727	71°5	1.51	Average daily consumption—20,040,274 gallons.
July, " ...	653.5	21.1	28,047	752	74°8	2.60	" " " per tap, 702 "
Aug., " ...	642.0	20 7	28,126	736	71°9	2.05	Total number of taps at the end of the year--28,537.
Sep., " ...	609.9	20.3	28, 99	723	68°1	5 81	
Oct., " ...	616.4	19.9	28,274	704	55°4	5 18	
Nov., " ...	573.4	19.1	28,367	678	40°1	3 68	
Dec., " ...	606.4	19.6	28,463	688	35°0	4.61	

Hydrant Statement.

FOR THE YEAR ENDING DECEMBER 31st, 1894.

(As a continuation to the list of Hydrants in the reports of 1883 to 1893.)

LOW SERVICE.

		Pressure Pounds.
1.	Hamburgh Place, south side, 50 feet west of Avenue L	43
2.	Northeast corner Elm Road and Gotthard Street	38
3.	Northeast corner Ferdon Street and Elm Road	39
4.	Ferdon Street, north side, 470 feet east of Elm Road	38
5.	Market Street, south side, between Alling and Ward Streets	35
6.	Market Street, south side, between Lawrence and Ward Streets	33
7.	Market Street, south side, between Lawrence and Mulberry Streets	30
8.	Southwest corner Market and Mulberry Streets	31
9.	Market Street, south side, opposite Beaver Street	31
10.	Market Street, south side, between Broad and Halsey Streets	32
11.	Soutwest corner Market and Halsey Streets	30
12.	Market Street, south side, between Halsey and Washington Streets	30
13.	Market Street, south side, between Plane and Washington Streets	30
14.	Christie Street, east side, between Bowery and Ferry Streets	30
15.	Runyon Street, north side, 125 feet west of Frelinghuysen Avenue	40
16.	Northwest corner Emmett Street and Avenue C	42
17.	Chapel Street, west side, between Bowery Street and Passaic Avenue	32
18.	Nevada Street, west side, 150 feet south of Marshall Street	33
19.	Oraton Street, west side, north of Elwood Avenue	50
20.	Plane Street, east side, between Bank and Academy Streets	32
21.	Northwest corner Academy and Broad Streets	30
22.	Northwest corner Sherman Avenue and Hunter Street	40

		Pressure Pounds.
23.	Elm Street, north side, between Mulberry and Columbia Streets	27
24.	Northwest corner N. J. R. R. Avenue and Green Street	38
25.	Northwest corner N. J. R. R. Avenue and East Fair Street	39
26.	Southwest corner N. J. R. R. Avenue and Hamilton Street	40
27.	N. J. R. R. Avenue, west side, between Mechanic and Hamilton Streets	40
28.	Southwest corner Alling and Market Streets	36

HIGH SERVICE.

		Pressure Pounds.
1.	Northwest corner James and High Streets	65
2.	5th Street, west side, 200 feet north of 5th Avenue	41
3.	Southwest corner 5th Street and 4th Avenue	40
4.	Southwest corner 5th Street and 3rd Avenue	43
5.	Clifton Avenue, west side, middle of block, between Elwood and Fredonia Avenues	39
6.	Northwest corner Clifton and Elwood Avenues	40
7.	North 6th Street, west side, about 300 feet south of 2nd Avenue	44
8.	South 11th Street, west side, middle of block, between 16th and 17th Avenues	31
9.	South 10th Street, west side, opposite north side Skinkle Street	31
10.	Springfield Avenue, north side, at the City line	32
11.	Southwest corner South 11th Street and 11th Avenue	40
12.	South 11th Street, west side, middle of block between Bank Street and 11th Avenue	38
13.	Southwest corner South 11th and Bank Streets	35
14.	South 11th Street, west side, middle of block, between Bank Street and 13th Avenue	35
15.	Northwest corner South 11th Street and Woodland Avenue	33
16.	Duryee Street, east side, at Dickerson Street	40
17.	Northwest corner Lake Street and Elwood Avenue	39
18.	Lake Street, west side, middle of block, between Elwood Avenue and Heller's Park Way	37
19.	Southwest corner Lake Street and Heller's Park Way	34
20.	Lake Street, west side, middle of block, between Heller's Park Way and Grafton Avenue	35
21.	Southwest corner Lake Street and Grafton Avenue	36
22.	Belmont Avenue, west side, 430 feet south of Bigelow Street	58
23.	Northeast corner 15th Avenue and 15th Street	23
24.	Southwest corner Hunterdon Street and 16th Avenue	47
25.	North 6th Street, west side, middle of block, between 4th and 5th Avenues	44

		Pressure Pounds.
26.	Southwest corner North 6th Street and 4th Avenue	43
27.	Cutler Street, west side, middle of block, between 6th and 7th Avenues	64
28.	Northwest corner Cutler Street and 7th Avenue	62
29.	South 13th Street, west side, 120 feet south of Woodland Avenue	29
30.	Northeast corner Grafton Avenue and 1st Street	38
31.	Southwest corner South 13th Street and Springfield Avenue	30
32.	Ridge Street, west side, 530 feet north of 6th Avenue	36
33.	Northwest corner Heller's Park Way and Lake Street	34
34.	Northeast corner Belmont Avenue and Waverly Place	39

HYDRANTS REMOVED.

Oraton Street, west side, south of Elwood Avenue to southwest corner Oraton Street and Elwood Avenue	48
Southwest corner Highland Avenue and Heller's Park Way, to southwest corner Heller's Park Way and Highland Avenue	31

SUMMARY OF HYDRANTS.

Inside City line Low Service	864	1,725
" " High "	861	
Belleville Pumping Station		3
Clinton Township		6
South Orange Township		1
Columbia Heights		11
Irvington		50
Belleville Township		60
Grand total connected with the works		1,856

Engineer's Report.

Newark, N J., March 25th, 1895.

To the Honorable, the Board of Street and Water Commissioners.

GENTLEMEN :

I herewith respectfully submit the following report showing the street and sewer improvements, as well as other work which was done during the year 1894, under the direction and supervision of this department. For the purpose of comparison and preserving statistical information, I have also tabulated the street and sewer improvements made during the years 1891, 1892 and 1893, as the last report rendered runs up to 1891.

Street Improvements 1894.

PAVINGS AND REPAVINGS.

Repaving of *Academy Street*, from Broad Street to Plane Street, with oblong granite blocks, upon a 6-inch concrete base ; cost as per final estimate, $9 456 07.

Paving of *Camp Street*, from Orchard Street to Mulberry Street, with sheet asphaltum paving, 6 inch concrete base ; cost $4,108 66.

Paving of *Court Street*, from Arlington Street to High Street, with cobble stones upon a 6-inch concrete base ; cost $7,028 85. The part from Washington Street to Arlington Street, was paved in the previous year, under the same contract, with oblong granite blocks at a cost of $10,182 01, making a total of $17,210 86. As the average width between the curbs of this street is 78 feet, the property owners requested the Board to leave a lawn in the centre. The width of roadway on each side of the lawn was made 24 feet. The grade of the first mentioned section being 9½ per cent., it was considered better to use cobble stones of a small size, which were imbedded in concrete with the use of Portland cement.

Repaving of *Clinton Street*, from Broad Street to Mulberry Street, with sheet asphaltum paving upon a 6-inch concrete base; cost $5,119 18. This street was repaved in the year 1889, with asphalt blocks upon a sand foundation, but it wore so poorly that the street was almost impassable, before it was taken up.

Repaving of *Commerce Street*, from Mulberry Street to Market Street, with oblong granite blocks upon a 6-inch concrete base; cost $20,473 34.

Paving of *Ferry Street*, from Magazine Street to Bowery Street, on each side of the street railway tracks, with the exception of one foot on each side, with oblong granite blocks, cost $21,300 03.

Paving of *James Street*, from High Street to Nesbitt Street, with oblong granite blocks; cost $8,988 07.

Repaving of *Mulberry Street*, from Market Street to Fair Street, on each side of the street railway tracks, with the exception of one foot on each side, with oblong granite blocks upon a 6 inch concrete base; cost, 10,003 26. The part from Centre Street to Market Street was repaved in the previous year, under the same contract, at a cost of $17,304 50, making a total of $27,307 76.

Paving of *Mott Street*, from Ferry Street to Market Street, with oblong granite blocks, cost for one-half $169 35. The other half was paid by the property owners direct. This work was not done under ordinance, and therefore paid out of the street appropriation fund; this part of the street borders a small public square.

Repaving of *Plane Street*, from Market Street to James Street, with oblong granite blocks, upon a 6-inch concrete base; cost, $34,634 68. The part from James Street to Broad Street, covered by the same contract, could not be done, on account of the approach of Winter.

Repaving of *Railroad Place*, on the Easterly side of the Pennsylvania Railroad, from South Canal Street to Market Street, with oblong granite blocks upon a 6-inch concrete base, cost, $4.558 69.

Paving of *Second Avenue*, from Belleville Avenue to Mt. Prospect Avenue, with oblong trap rock blocks: cost, including an expense of $530 00 for the rebuilding of 9 basins, $10,457 50. The rebuilding of the basins was necessitated by narrowing the roadway on each side two feet; the net saving to the property owners, accruing out of this change, was $337 00.

Repaving of *South Orange Avenue*, from Springfield Avenue to South Ninth Street, on each side of the street railway tracks, with the exception of one foot on each side, with oblong granite blocks; cost, $39,475 92. The part of this Avenue, from Wickliffe Street to South Ninth Street, has been paved with telford paving, the foundation stones of this pavement were removed, and the smaller ones used as a bed for the block paving.

Paving of *South Tenth Street*, from South Orange Avenue to Springfield Avenue, on each side of the street railway tracks, with the exception of one foot on each side, with oblong trap rock blocks; cost, $19,057 04.

Paving of *Sheffield Street*, from James Street to Seventh Avenue, with oblong trap rock blocks; cost, $13,626 15. Part of this street, from Sussex Avenue to James Street, was paved in the previous year, under the same contract, at an expense of $4,563 93, making a total of $18,190 08.

ordinance that no block paving shall be laid without a concrete foundation. Their brick paving is now also put upon a four-inch concrete foundation, although this kind of paving is mostly used in the out-lying districts, where the travel is light. Philadelphia has about 40 miles of brick and about 100 miles of sheet asphalt paving.

As some of Telford Streets in charge of the City are in a poor condition, I would suggest that they be covered with asphalt. This would not only save a heavy annual expenditure for repairs, but also abate the intolerable nuisance of dust in dry weather. I would especially call the attention of the Board to the part of William Street, from Broad Street to Laundry Alley, in front of the City Hall and Police Station.

It might be well to put down brick paving in a few streets over which the travel is not heavy, and where the value of abutting property would not warrant the expense of a more costly paving. I believe that brick paving upon a four-inch concrete foundation, and the interstices filled with a cement grout, could be put down for about $2.00 a square yard. The principal difficulty with a brick paving is to get all the brick of a uniform hardness.

As it is intended to expend a large sum of money for street pavings this year, I would suggest that the Board principally consider the unpaved streets, as there are so many of them; especially such as will furnish a continuous travel at certain intervals of blocks.

It would also be well to expend more money upon the repair of pavings, chiefly the block pavings, for when any ruts or cavities are allowed to remain in them for a long time, the surface of the stones get worn off so unevenly that even when they are raised, they are not much better than cobble stones.

In the Mayor's Message for 1893, and in the Auditor's Report, under the head of "Regulating, Cleaning and Keeping in Repair the Streets and Highways," among the disbursements is shown the amount of $154 00 for repair of pavings; and this upon 63 miles of paved streets.

The time of five years, as guarantee for the asphalt paving in Broad Street, from Belleville Avenue to Gouverneur Street, expired last October. No guarantee upon any other of the asphalt pavings will expire this year, unless it is upon Camp Street, from Broad Street to Orchard Street, although this work was not done under ordinance, but by abutting property owners directly. It is customary to arrange with an Asphalt Paving Company to assume a further guarantee, after the original one has expired. The time of guarantee upon all the stone pavings, which were completed last year, will expire during the present one. See table A for street pavings, and table B for grading and curbing, done in the years 1891, 1892, 1893 and 1894.

Sewers, 1894.

During the year there were built 1,616 feet of brick and 14,553 feet of pipe sewers; including 21 basins and 91 manholes; at a total cost of $20,662 00. In addition to this, 5,152 feet of pipe sewer, 2 basins and 21 manholes were constructed under the ordinance of 1885, whereby the property owners enter upon a sewer contract themselves, with the consent of the Board.

Under the contract of the East Orange Township with the City of Newark, whereby the first is privileged to discharge its sewage through what is called the Mill Brook sewer, under the condition that it is to extend said sewer from Seventh to Fifth Avenues, and build a brick sewer in Fifth Avenue, from First to Fifth Streets, thence a 24-inch pipe sewer through Fifth Street, Fourth Avenue, North Ninth and Newbold Streets, to the City limits; of this there were built 1,822 feet of 8 foot brick sewer, 686 feet of 2x3 foot brick sewer, and 2,084 feet of pipe sewer, out of a total of about 6,500 feet. Quite a long section of the pipe sewer is to be laid where there is solid rock for almost the full depth of the trench, and as the deepest cut would be about 30 feet, the contractor concluded to tunnel. There is considerable water to contend with in the tunnel. The work, within the City limits, is expected to be completed during the month of May, next ensuing. A contract for reconstructing about 980 feet of the brick sewer in South Twelfth Street, between Sixteenth and South Orange Avenues, was awarded in November, but on account of the delay in getting the 30-inch pipe the work was barely started. The brick sewer was built in 1873 and 1874 through a stretch of peat; as there was no support to the walls they spread and caused the arch to settle. It was therefore considered better to use 30-inch pipe, which is 2¼ inches thick; a few bottom courses of the brick sewer served as a foundation for the pipes. The price paid for the work is $3.27 per foot.

EXTENT OF SEWER WORK DONE WITHIN THE PAST FIVE YEARS:

1890.	Brick publicly......	3,506	feet	
	Pipe "	23,135	"	Cost, $ 79,168 10
	" privately......	12,677	"	
		39,318	"	

Basins, 85; Flush Tanks, 3; Manholes, 225.

1891.	Brick publicly......	1,008	feet	
	Pipe "	9,425	"	Cost, $ 22,209 68
	" privately	8,662	"	
		19,095	"	

Basins, 42; Manholes 111.

1892.	Brick publicly......	1,540	feet	
	Pipe "	9,951	" Cost,	$ 18,541 84
	" privately......	7.285	"	
		18,776	"	

Basins, 30; Manholes, 120.

1893.	Brick publicly......	.....	feet	
	Pipe "	11,270	" Cost,	$ 15.400 09
	" privately......	5,044	"	
		16,314	"	

Basins, 24; Manholes, 107.

1894.	Brick, East Orange..	2,508	feet	
	" publicly......	1,616	"	
	Pipe "	14,553	" Cost,	$ 20,662 00
	" privately.....	4,254	"	
		22,931	"	

Basins, 24; Manholes, 112.

SUMMARY.

Brick, East Orange..	2 508	feet	
" publicly......	7 670	"	
Pipe "	68.334	" Cost,	$155,981 71
" privately.....	37,922	"	
		"	
	116,434		

LENGTH OF SEWERS BUILT UP TO JAN. 1st, 1895.

Brick......................	53.49	miles
Pipe publicly............	43.00	"
" privately.............	15.55	"
	112.04	

Number of basins, 2,160; Flush Tanks, 22.

The wooden conduits which were designed to carry the sewage of the Intercepting Sewer System, from the pumping station across the meadows and into deep water of the Newark Bay, are in such a condition that at certain times of the day the sewage is discharged through some of the breaks upon the adjoining meadows, and into the Peddie Street canal, in which it is carried with the incoming tide, up to the upper end at the Pennsylvania R. R.

The defective parts of the conduits are scattered all along the line, between the Elizabeth Branch R. R. to the Bay; but the most serious breaks are near the Peddie Street canal, on each side of it; there is also one in the Newark Bay section. As well as could be ascertained in an examination made in 1891 and 1894, the aggregate length of the defective parts is 3,050 feet. In the year 1889, the conduits were repaired at an expense of $5,297 55, covering 970 feet; the distance from the Elizabeth Branch R. R. to the Newark Bay is 6,776.

I have no doubt that if the soil which covers the conduits would be removed, a great many more defective parts would be found.

The part of the Peddie Street canal from the Pennsylvania R. R. to Wheeler's Creek was not dredged; the quantity of soil to be removed is about 4,000 cubic yards. The distance covered by this section is 1,100 feet.

The following quantities were removed and amounts expended, for dredging of the above mentioned section since the canal was made, in year 1883:

		CUBIC YARDS.	
June,	1885,	.....	$ 800 00
June,	1886,	....	1,200 00
July,	1888,	4,170	3,127 50
January,	1890,	4,415	3,697 57
February,	1891,	4,103	3,077 25
May,	1893,	4,332	2,555 88
			$14,458 20

The area of the territory from which the storm water is discharged into the canal at the Pennsylvania R. R., is 1,430 acres; the greater number of the streets in this territory are unpaved.

Passaic River Dredging.

There was no dredging done at the outlets of the various sewers, during the past year. In April, 1892, there were 1,210 cubic yards of soil removed at the City Dock, and Meeker and Hedden's, at a cost of $726 50; and in June, 1893, 1,761 cubic yards at City Dock and Ballantine's, cost $1,056 60.

Intercepting Sewer.

PUMPING STATION.

The following statement shows the quantity of sewage and storm water lifted by the pumps, as per counter indicating the number of strokes, allowing 8% slip in the pumps. Also the quantity of coal consumed, and the ashes as a resultant.

1891.

Total during the year, in gallons		2,864,954.496
Maximum per day		22,523,712
Minimum " "		3.721,832
Average " "		7.849,190
Tons of coal (2,000 lbs. per ton)	$459.68	
Ashes produced	49.42	

1892.

Total		3,142,174,332
Maximum		19,688,393
Minimum		4,010,912
Average		8,585,175
Coal	$518.25	
Ashes	61.99	

1893.

Total		3.517,772.472
Maximum		22.060.016
Minimum		2.663,624
Average		9.637.733
Coal	$500.35	
Ashes	79.63	

1894.

Total		3.684,628,864
Maximum		19.469 976
Minimum		4,989,112
Average		10,094,873
Coal	$524.12	
Ashes	76.81	

There are four pumps, worked in pairs, designed to lift 30 million gallons in 24 hours, to a height of twenty feet, at a maximum piston speed of 110 feet per minute. It is only in heavy rain storms that all pumps are put in operation. Tables E, 1, 2, 3 and 4, graphically illustrates the work performed by the engines for each day throughout the whole year, of 1891, 1892, 1893 and 1894 respectively.

The cost of labor employed at the pumping station, and the names of the employees at the present are:

D. M. Harris, Chief Engineer	$1,200 00	per year
Charles Ball, Asst. "	1,000 00	"
Conrad Gehde, " "	1.000 00	"
Richard Welsh, Fireman	2 50	per day
Richard B. Hunt, "	2 50	"
John Glennon, "	2 50	"
Patrick Dolan, Laborer	2 00	"

Entire amount per year, $6 707 50.

Average expense in the past four years for coal, tools, oils, etc	$ 3,094 18
For repair of machinery and buildings	581 12
Salaries	6,707 50
Average total expense per year	$10,382 80

In addition to the work heretofore mentioned, there were other numerous duties performed by this department, such as making surveys and furnishing maps for street openings, establishing house numbers, giving curb grades, etc. It is also the duty of the Engineer to supervise and examine, from day to day, as may be practicable, all works of public improvement in progress under contract with the city.

The various duties required of me were performed as time would permit, without limiting the hours.

The following named persons constitute the clerical force of the department:

Louis C. Dittler,
Principal Assistant for street improvement work.
Edward S. Rankin,
Principal Assistant for sewer improvement work.
George C. Brandley,
Principal Assistant in charge of office.
John Schieck,
Sewer work.
Wm. Howell,
Street work.
Fred. W. Dusenberry,
Harry Franklin,
Charles Stilger,
General Assistants.

Respectfully submitted,
ERNEST ADAM,
Engineer in charge of Street
and Sewer Department.

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ASTOR, LENOX AND
TILDEN FOUNDATIONS.

PUBLIC LIBRARY

ASTOR, LENOX AND
TILDEN FOUNDATIONS.

TABLE A.

STREET PAVINGS—1891.

Streets Paved	Location.	Material.	Length	Sqr. Yds.	Cost per Yard	Final Estimate.	Total Cost.	Ass'm't. on Property.	Ass'm't. on City.	Contractor.	Remarks.
Belleville ave...	Bloomfield ave. to Washington ave..	Oblong Granite..	4,607	19,595	$2 50	$ 53,479 16	$ 56,259 32	$38,700 10	$17,559 22	O'Connor& Woodward	
Comes alley....	Market st. to Bank st........	Square Trap....	335	474	1 74	940 46	1,225 76	1,153 90	71 86	David Harper... .	
Gouverneur st..	Belleville ave. to Broad st...........	Asphalt..... ..	295	1 244	2 85	3,747 60	4,137 10	3,398 77	738 33	Barber Asphalt Co....	
Mercer st.......	High st. to Springfield ave...........	Oblong Trap ...	1,362	4,884	2 15	11,593 23	12,327 38	11,705 72	621 66	John F. Shanley.	
Park st...	Park place to Mulberry st..........	Asphalt.........	723	2,752	2 85	8,236 51	8,817 42	5,364 03	3,453 39	Barber Asphalt Co....	
Passaic st.......	Fourth ave. to Oriental st	Square Trap....	1,322	6,810	1 65	12,523 48	13,382 89	11,880 28	1,502 61	John F. Shanley.......	
Rankin st.......	Springfield ave. to South Orange ave.	Oblong Trap....	775	2,586	2 15	5,897 62	6,395 00	5,432 96	962 04	John F. Shanley......	
South st.... ...	New Jersey R. R. ave to Penna. ave.	Asphalt.........	1,307	4,911	2 89	14,699 69	15,179 97	14,502 34	677 63	Barber Asphalt Co....	
Wickliffe st.....	Bank st to Warren st...............	Oblong Trap....	795	2,180	2 01	5,069 95	5,631 15	4,347 96	1,283 19	Maguire & Howard. .	
			11,521	45,436		$116,187 70	$123,355 99	$96,485 86	$26,870 13		

TABLE A

STREET PAVINGS—1892.

Streets Paved	Location.	Material.	Length	Yards.	Cost per Yard	Final Estimate.	Total Cost.	Ass'm't. on Property	Ass'm't. on City.	Contractor.	Remarks.
Boston st	South Orange ave. to Bank st	Oblong Trap	1,167	4,598	$2 38	$ 11,720 04	$ 12,439 68	$ 11,572 68	$ 867 00	John F. Shanley	
Boyden st	Sussex ave. to Eighth ave	Square Trap	1,998	6,988	1 80	13,405 90	14,157 60	13,423 85	733 75	Thomas O'Connor	
Bruen st	East Mechanic to Elm sts	Oblong Granite	925	3,879	2 23	15,906 98	17,164 73	14,750 55	2,414 18	John F. Shanley	
Broad st	Rector st., 150 feet North	Asphalt	150	793	2 87	3,063 66	3,591 25	1,956 21	1,635 04	Barber Asph. Pav. Co.	
Colden st	Sussex ave. to Morris Canal	Square Trap	1,612	5,363	1 69	9,925 32	10,658 05	10,044 45	613 60	John F. Shanley	
Chambers st	Market st. to Ferry st	Square Trap	918	3,011	1 65	5,260 90	5,840 60	5,650 85	189 75	Thomas O'Connor	
Clay st	Broad st to Ogden st	Ob. Grn Con. bse.	504	1,378	3 29	5,151 68	5,962 62	3,837 50	2,125 12	T. J. Regan	
Emmett st	N. J. R. R. ave. to Frelinghuysen ave.	Oblong Trap	1,251	4,964	2 09	10,967 33	11,703 75	11,485 30	218 45	T. J. Regan	
Fourth ave	Newark & Patn. R.R. to Bloomfd. ave.	Oblong Granite	2,260	9,565	2 20	22,876 95	24,205 99	20 119 28	4,086 71	Thomas O'Connor.	
Grant st	Broad st to Spring st	Asphalt	489	1,615	2 83	4,663 90	5,335 27	5,314 52	20 75	Barber Asph. Pav. Co.	
Gouverneur st.	Broad st. to Mt. Pleasant ave	Asphalt	213	867	2 80	2,455 77	2,981 40	2,431 50	549 90	Barber Asph. Pav. Co.	
Gould ave	Warren st. to City Line	Asphalt	1,216	5,401	2 87	16,006 32	16,902 25	9,497 67	7,404 58	Barber Asph. Pav. Co.	
Harvey st	Belleville ave. to Mt. Pleasant ave	Asphalt	509	2,051	2 80	5,830 60	6,454 75	1,741 80	4,712 95	Barber Asph. Pav. Co	
Howard st	South Orange ave. to Bank st	Oblong Trap	1,017	3,400	2 13	7,964 77	8,758 41	8,206 65	551 76	T. J. Regan	
James st	Washington st to High st	Oblong Granite	200	685	2 40	12,209 75	13,068 46	11,621 70	1,446 76	Barber Asph. Pav. Co.	
		Asphalt	819	3,285	2 87						
Newark st	Orange st. to Central ave	Oblong Trap	1,168	4,597	2 38	11,426 71	12,147 20	12,147 20	....	John F. Shanley	
North Canal st.	Park place to Mulberry st	Asphalt	758	1,838	2 93	5,804 64	6,383 78	5,608 69	775 09	Barber Asph. Pav. Co.	
Nesbitt st	Sussex ave. to Eighth ave	Oblong Trap	1,269	5,748	2 13	13,436 53	14,300 51	12,151 38	2,149 13	T. J. Regan	
Orange st	Broad st. to Ogden st	Oblong Granite	523	1,717	2 70	5,825 85	6,403 91	6,222 55	181 36	Thomas O'Connor	
		Cobble	225	658	1 20						
Oriental st	Belleville ave to Mt. Pleasant ave	Asphalt	570	2,066	2 80	5,902 17	6,614 48	5,083 57	1,530 91	Barber Asph. Pav. Co.	
Pacific st	Elm st. to Chestnut st	Oblong Granite	1,627	3,702	2 35	10,283 10	11,362 94	8,781 58	2,581 36	John F. Shanley	
Park place	N. Canal st. to Broad st	Asphalt	1,486	6,917	2 87	20,977 14	21,984 28	20,541 57	1,442 71	Barber Asph. Pav. Co.	
Polk street	Ferry st. to Passaic ave	Square Trap	1,790	5,960	1 54	9,910 84	10,640 98	10,130 52	510 46	John F. Shanley.	
Parkhurst st	Clinton ave. to Austin st	Oblong Granite	1,282	5,141	2 24	12,782 64	13,707 54	11,007 54	2,700 00	John F. Shanley	
South Canal st	R. R. place to Market st	Oblong Granite	802	1,976	2 48	5,446 53	6,029 91	4,468 36	1,561 65	John F. Shanley	
Sayre st	Springfield ave. to West Kinney st	Square Trap	422	1,399	1 70	2,567 90	3,082 93	3,082 93	....	Flynn & Satchwell	
Spruce st	High st. to Belmont ave	Oblong Trap	2,095	9,361	2 19	23,031 61	24,723 92	19,952 53	4,771 39	T. J. Regan	
Tichenor s	Broad st. to New Jersey R. R. ave.	Asphalt	850	3,092	2 87	9,027 14	9,769 64	9,769 64	....	Barber Asph Pav. Co.	
Thomas st	Clinton ave. to New Jersey R.R. ave.	Asphalt	1,650	5,524	2 87	16,896 58	17,805 58	14,911 26	2,894 32	Barber Asph. Pav. Co.	
Thirteenth ave.	Springfield ave. to Morris ave	Oblong Granite	3,530	13,871	2 37	35,415 41	37,672 89	31,397 28	6,275 61	John F. Shanley	
Van Buren st	Ferry st. to Walnut st	Oblong Granite	1,100	4,443	2 20	10,442 50	11,248 63	10,020 44	1,228 19	Terence McManus	
Walnut st	N. J. R. R. ave. to Van Buren st	Oblong Granite	3,142	12,548	2 33	30,997 29	32,420 18	29,628 67	2,791 51	Terence McManus	
Wilsey st	Bank st. to Morris Canal	Oblong Trap	1,610	5,410	2 29	13,502 75	14,428 43	12,450 24	1,978 19	John F. Shanley	
Washington plc	Broad st. to Washington st	Asphalt	494	2,276	2 87	6,882 62	7,538 96	3,769 01	3,769 95	Barber Asph. Pav. Co.	
Washington st.	Central ave. to Broad st	Asphalt	957	4,502	2 87	13,189 20	14 032 14	8,538 01	5,494 13	Barber Asph Pav. Co	
William st	High st. to West st	Oblong Trap	698	2 348	2 14	5,252 82	5,888 45	5,888 45	... .	T. J. Regan	
West Kinney st.	Washington st. to Broome st	Oblong Trap	1,181	2,817	2 24	7,659 18	8,392 10	7,551 24	840 86	John F. Shanley	
		Cobble	800	1,877	34						
			45,337	167,638		$424,071 02	$455,804 14	$384,757 17	$71,046 97		

Table A.

STREET PAVINGS—1893.

Streets Paved.	Location.	Material.	Length	Yards	Cost per Yard	Final Estimate.	Total Cost.	Ass'm't on Property.	Ass'm't. on City.	Contractor.	Remarks.
Baldwin st.. …	Washington st. to High st..........	Cobble.........	845	3,145	$ 70	$ 2,596 20	$ 3,158 95	$ 2,614 18	$ 544 77	Thomas O'Connor. …	
Broad st........	Gouverneur st. to Harvey st.........	Asphalt....... ..	2,884	11,652	2 80	33,165 71	34,986 60	32,307 84	2,678 76	Barber Asph. Pav. Co.	
Bridge st........	Broad st. to Passaic River...........	Ob.Grn.Con.bse.	909	2,248	3 20	8,118 35	9,047 83	7,159 10	1,888 73	B. M. & J. F. Shanley.	
Broome st.......	South Orange ave. to Springfield ave.	Oblong Trap....	549	2,131	2 31	5,129 93	5,750 11	4,954 34	795 77	John F. Shanley.......	
Centre st........	Park place to Front st................	Oblong Granite..	703	3,131	2 14	7,106 65	7,933 56	6,303 21	1,630 35	B. M. & J. F. Shanley.	
Crawford st.....	Halsey st. to High st............. ..	Oblong Trap.... Cobble........ .	344 740	1,131 2,436	2 08 67	4,425 07	5,040 10	4,646 05	394 05	G. C. Pfeifer..........	
Elizabeth st. …	Hamburg place to Niagara st........	Oblong Granite..	723	2,453	2 48	6,609 94	7,224 46	5,603 85	1,620 61	Thomas O'Connor....	
Howard st.......	South Orange ave. to Springfield ave.	Oblong Trap....	389	1,529	2 25	3,686 24	4,253 44	3,229 18	1,024 26	C. H. Hopper.	
E. Mechanic st..	N. J. R. R. ave. to Ferry st.........	Oblong Granite..	453	1,447	2 18	3,519 14	4,060 90	2,825 28	1,235 62	Terence McManus...	
High st.	Orange st. to Eighth ave.............	Oblong Granite..	987	2,950	2 47	8,341 43	9,253 63	6,293 07	2,960 56	John F. Shanley.......	
Longworth st...	Washington st. to High st......	Cobble	736	2,899	78	2,606 45	3,206 05	2,585 16	620 89	Terence McManus....	
Morris ave.......	Springfield ave. to W. Kinney st.....	Oblong Trap....	189	754	2 34	1,963 83	2,401 80	1,297 50	1,104 30	John F. Shanley.......	
Mechanic st.....	Broad st. to Alling st.........	Ob.Grn.Con.bse.	1,703	4,892	3 76	19,508 24	20,860 89	13,053 97	7,806 92	Terence McManus....	
Murray st.....	Broad st. to N. J. R. R. ave.........	Oblong Granite..	617	2,449	2 33	6,252 06	7,029 31	4,356 25	2,673 06	John F. Shanley.......	
Newton st.......	Cabinet st. to Fourteenth ave.........	Asphalt	2,220	7,638	2 85	22,834 56	24,325 33	18,736 29	5,589 04	Barber Asp. Pav. Co..	
Nelson place....	High st. to Howard st..	Oblong Granite..	910	3,662	2 59	9,809 03	10,679 02	9,426 36		T. J. Regan...	
Prince st.........	South Orange ave. to Springfield ave.	Oblong Trap....	696	2,795	1 99	5,841 92	6,430 08	6,430 08	…	B. M. & J. F. Shanley.	
Railroad place..	Market st. to South Canal st.........	Ob.Grn.Con.bse.	510	1,787	3 73	7,397 93	8,172 34	1,936 80	6,235 54	Terence McManus ..	
River st.......	Mulberry st. to Canal Bridge	Oblong Granite..	1,325	5,783	2 45	15,306 35	16,586 65	11,856 92	4,729 73	T. J. Regan......	
Springfield ave..	Belmont ave. to Morris ave...	Oblong Granite..	1,410	3,708	2 66	11,830 33	13,739 31	9,463 15	4,276 16	Thomas O'Connor....	
Thirteenth ave..	Morris ave. to Littleton ave..........	Oblong Granite..	1,260	5,086	2 24	12,671 51	13,715 65	9,150 00	4,565 65	B. M. & J. F. Shanley..	
West Kinney st.	Belmont ave. to Morris ave..........	Oblong Trap....	1,176	4,680	2 30	12,032 69	13,120 29	8,874 40	4,245 89	John F. Shanley.......	
Court st........	Washington st. to Arlington st.......	Oblong Granite..	539	3,466	2 54	10,182 01	Current Estimate.			John F. Shanley	Completed in 1894......
Lawrence st....	Commerce st. to Hamilton st	Ob.Grn.Con.bse.	809	2,120	3 53	8,165 17	9,137 92	7,704 48	1,433 44	T. J. Regan..........	
Mulberry st....	Centre st. to Market st	Ob.Grn.Con.bse.	1,796	4,222	3 79	17,304 50	Current Estimate.			Thomas O'Connor..	Completed in 1894.......
Sheffield st.. ...	Sussex ave. to James st..............	Oblong Trap....	463	1,832	2 36	4,563 93	Current Estimate.			John F. Shanley..... .	Completed in 1894.......
			25,849	91,878		$251,029 17					

TABLE A.

STREET PAVINGS—1894.

Streets Paved.	Location.	Material.	Length	Yards	Cost per Yard	Final Estimate.	Total Cost.	Ass'm't on Property.	Ass'm't on City.	Contractor.	Remarks.
Academy st. ..	Broad st. to Plane st	Obl. Gran. Con. Base	1,236.6	2,849.0	$2 98	$ 9,456 07	$..........	$..........	$	T. McManus..........	Cost not declared.
Camp st........	Orchard st. to Mulberry st	Asphalt............	427.0	1,397 0	2 83	4,108 66	4,710 21	....	....	New Jersey Asph. Co	Not yet assessed.
Court st........	Arlington st. to High st	Cobble, Con. Base..	461.0	2,481.0	2 39	7,028 85	18,790 76	11,734 90	7,055 86	John F. Shanley.......	
Clinton st.......	Broad st. to Mulberry st	Asphalt	738.5	1,851.0	2 73	5,119 18	5,747 04	4,011 84	1,735 20	New Jersey Asph. Co.	
Commerce st....	Mulberry st. to Market st	Obl. Gran. Con. Base	1,748.0	5,549.0	3 53	20,473 34	22,290 65	....	....	Thomas J. Regan......	Not yet assessed.
Ferry st.........	Magazine st. to Bowery st	Oblong Granite	3,185.0	8,674.0	2 19	21,300 03	22,655 85	....	....	Thomas A. O'Connor	" "
James st.........	High st. to Nesbitt st	Oblong Granite......	1,135.0	3,383.0	2 45	8,988 07	9 848 58	6,794 00	3,054 58	Terrence McManus...	
Mott st..........	Ferry st. to Market st	Oblong Granite.. ...	46.1	163.0	.....	169 35	....	....	....	Thomas A. O'Connor	Private contract.
Mulberry st....	Market st to Fair st.	Obl. Gran. Con. Base	864 5	2,817.0	3 79	10,003 26	29,691 72	24,816 54	4,875 18	Thomas A. O'Connor.	
Plane st...	Market st. to James st	Obl. Gran. Con. Base	2,899.3	10,412.0	3 09	34,634 68	....	....	....	New Jersey Asph. Co.	Not completed.
R. R. place east.	Market st. to South Canal st	Obl. Gran. Con. Base	450.5	1,191.0	3 54	4,558 69	5,162 29	....	....	Thomas J. Regan......	Not yet assessed.
Second ave	Belleville ave to Mt. Prospect ave...	Oblong Trap........	1,102.2	5,121.0	1 77	10,457 50	....	....	....	Arthur E. Sanford.	Cost not declared.
S. Orange ave...	Springfield ave. to South Ninth st....	Oblong Granite......	5,476 9	13,932.0	2 57	39,475 92	42,036 77	32,419 99	9 616 78	John F. Shanley.......	
South Tenth st..	South Orange ave. to Springfield ave.	Oblong Trap........	2,992.4	6,946.0	2 49	19,057 04	20,302 33	17,778 79	2,523 54	John F. Shanley.......	
Sheffield st......	James st. to Seventh ave	Oblong Trap	1,440.6	5,363.0	2 36	13,626 15	19,593 20	14,324 69	5,268 51	John F. Shanley.......	
Alling st	Mechanic st. to Market st	Oblong Trap........	290.0	939 6	.....	....	....	....	....	Terrence McManus...	Private contract.
			24,493 6	73,068.6		$208,456 79					

Granite Block.	Belgian Block.	Telford.	Sheet Asphalt.	Asphalt Block.	Cobble Stone.	Paved Streets.	Graded Streets.	in Newark.	
6.40	2.12	12.08	.....	.....	26.18	46.78	133.79	180.57	Jan. 1st, 1887.
5.93	2.12	12.08	.....	.....	26.40	46.53	133 48	180.01	Jan. 1st, 1886.
+ 0.47	0.00	.....	.....	.....	- 0.22	+ 0.25	+ 0.31	+ 0.56	
7.77	2.12	12.08	.....	0.14	25.38	47.49	135.87	183.36	Jan. 1st, 1888.
6.40	2.12	12.08	.....	0.00	26.18	46.78	133.79	180.57	Jan. 1st, 1887.
+ 1.37	.....	.....	.....	+ 0.14	- 0.80	+ 0.71	+ 2.08	+ 2.79	
8.81	2.49	12.08	.....	0.14	24.84	48.36	137.21	185.57	Jan. 1st, 1889.
7.77	2.12	12.08	.....	0.14	25.38	47.49	135.87	183.36	Jan. 1st, 1888.
+ 1.04	+ 0.37	.....	.....	.....	- 0.54	+ 0.87	+ 1.34	+ 2.21	
8.81	3.24	12.08	0.57	0.28	24.83	49.81	135.88	185.69	Jan. 1st, 1890.
8.81	2.49	12.08	0.00	0.14	24.84	48.36	137.21	185.57	Jan. 1st, 1889.
.	+ 0.75	.....	+ 0.57	+ 0.14	- 0.01	+ 1.45	- 1.33	+ 0.12	
9.39	3.85	12.08	0.64	0.28	24.88	51.12	139 22	190.34	Jan. 1st, 1891.
8.81	3.24	12.08	0.57	0.28	24.83	49.81	135.88	185.69	Jan. 1st, 1890.
+ 0.58	+ 0.61	.....	+ 0.07	.....	+ 0.05	+ 1.31	+ 3.34	+ 4.65	
10.26	4 72	12.08	1.08	0.28	23.87	52.29	143.79	196.08	Jan. 1st, 1892.
9.39	3.85	12.08	0.64	0.28	24.88	51.12	139.22	190.34	Jan. 1st, 1891.
+ 0.87	+ 0.87	.....	+ 0.44	.....	- 1.01	+ 1.17	+ 4.57	+ 5.74	
13.26	8.17	12.08	3.00	0.28	22.98	59.77	137.88	197.65	Jan. 1st, 1893.
10.26	4.72	12.08	1.08	0.28	23.87	52.29	143.79	196.08	Jan. 1st, 1892.
+ 3.00	+ 3.45	.....	+ 1.92	.....	- 0.89	+ 7.48	- 5.91	+ 1.57	
16.04	8.89	11.82	3.96	0.14	22.16	63.01	138.44	201.45	Jan. 1st, 1894.
13.26	8.17	12.08	3.00	0.28	22.98	59.77	137.88	197.65	Jan. 1st, 1893.
+ 2.78	+ 0.72	- 0.26	+ 0.96	- 0.14	- 0.82	+ 3.24	+ 0.56	+ 3.80	
19.26	9.99	10.94	4.18	0.00	20.67	65.04	139.06	204.10	Jan. 1st, 1895.
16.04	8.89	11.82	3 96	0.14	22.16	63.01	138.44	201.45	Jan 1st, 1894
+ 3 22	1.10	- 0.88	+ 0.22	- 0.14	- 1.49	+ 2.03	+ 0.62	+ 2.65	

TABLE B.

GRADING AND CURBING—1891.

Name of Street.	Location.	Length Feet.	Cubic Yards.		Cost per Yard	Final Estimate.	Total Cost.	Ass'm't on Property.	Ass'm't on City.	Contractor.	Remarks.
South Thirteenth st..	Eighteenth ave. to Springfield ave..........	471	Exc.	2,521	$0 20	$1,065 09	$1,369 25	$1,369 25	....	P. H. Harrison........	988 feet curb.
Chester ave.........	Oraton st. to Newark & Paterson R. R.....	738	Exc.	18,461	0 25	5,856 99	6,280 85	5,127 49	$1,153 36	Thomas O'Connor....	1,378 feet curb.
		1,200		20,982		$6,922 08	$7,650 10	$6,406 74	$1,153 36	... .	2,366 feet.

1892.

Name of Street.	Location.	Length Feet.	Cubic Yards.		Cost per Yard	Final Estimate.	Total Cost.	Ass'm't on Property.	Ass'm't on City.	Contractor.	Remarks.
Gotthardt st........	Hamburg place to Elm road....	1,703	Fill.	9,226	$0 40	$5,717 44	$6 257 16	$6,247 96	$ 9 20	Thomas O'Connor....	
Morris ave	Central ave. to Condit st..	667	Exc.	1,450	28	1,054 08	1,483 79	1,483 79	....	Hill & Gilchrist.......	
Wall st.............	Elizabeth st. to Darcy st..	516	Fill.	1,677	25	830 18	1,222 41	1,222 41	....	F. Burkhardt.	
		2,886		12,353		$7,601 70	$8 063 36	$8,054 16	$ 9 20		

1893.

Name of Street.	Location.	Length Feet.	Cubic Yards.		Cost per Yard	Final Estimate.	Total Cost.	Ass'm't on Property.	Ass'm't on City.	Contractor.	Remarks.
Prospect place	Fourteenth ave. to Bruce st....	......		1,064	0 60	$1,202 16	$1,622 35	$1,622 35	....	Terence McManus....	

PAVING OF GUTTERS—1891

Name of Street.	Location.	Material.	Length	Sqr. Yds.	Cost per Yard	Final Estimate.	Total Cost.	Ass'm't on Property.	Ass'm't on City.	Contractor.
Chester ave........	Oraton st. to Newark & Paterson R. R.....	Square Trap	794	817	$1 70	$1,388 90	$1,637 43	$1,480 92	$156 51	Thomas O'Connor.

Table C.

PUBLIC SEWERS—1891.

Name.	Location.	Brick Size. In.	Brick L't'h	Pipe. Size. In.	Pipe. Len'th	Total Leng'h	Basins.	Manholes.	Cost per Foot.	Final Estimate.	Total Cost.	Ass'm't. on Property	Ass'm't. on City.	Contractor.	Remarks.
Mulberry st.. Pennington st. and Dawson st.	East Kinney st. to Pennington st..... Mulberry st. to Hermon st........ South st. to Thomas st............	48x54 42x48 36x54 34x51	316 927 1 050 1,158	3,451	....	....	.. .. ..	.. .. ..	$4 00 4 00 3 00	$4,987 65	$19,922 85	$12,705 33	$7,217 52	R. Satchwell..........	A part of this Sewer was built in 1890
				Built	in 1891	1,008	11	10	.....	....	....	....	....	....	Fi'al Est.$17,946 17
Newton st......	Bank st. to Thirteenth ave	.....	.....	10	554	554	1	4	65	593 35	939 35	939 35	....	W. J. Hughes.........	
Bigelow st. & Milford ave...	Elizabeth ave. to Milford ave....... Bigelow st. to Clinton ave...........	....	....	15 12 15	293 706 805	1,804	5	10	92 76 90	2,560 52	3,068 76	3,068 76	....	W. J. Hughes.........	
Madison st......	Ferry st. to Lafayette st..............	.....	.....	12	648	648	1	4	53	609 89	735 06	735 06	....	James Edwards.......	
South Canal st..	Railroad place to Mulberry st.	.....	.....	12	943	943	1	5	94	1,225 40	1,638 72	1,566 72	72 00	Philip Harrison.......	
Passaic st.......	Third ave. to Fourth ave	.....	.....	15	288	288	2	2	.....	597 60	....	....	....	John F. Shanley......	Ass'm't. in Paving
Fifth ave. and Clifton ave....	Mt. Prospect ave. to Clifton ave..... Fifth ave. to Bloomfield ave...........	....	....	15 12	298 763	1,061	3	5	1 15 93	2,065 93	2,673 70	2,673 70	....	D. Harper...........	Heavy Rock Excavation.
N.J.R.R.ave. and South st..	South st. to Pennington st .... N. J. R. R. ave. to Orchard st........	....	....	15 18 12	241 266 256	763	4	6	75 1 00 60	1,304 93	1,725 70	1,626 24	99 46	Philip Harrison.......	
Orange st......	Fifth st. to Humboldt st.	.....	.....	12 15	488 708	1,196	7	6	80 1 10	2,567 50	3,082 15	2,539 60	542 65	Philip Harrison.......	Rock.
Nichols st.......	Jefferson st. to Pacific st.	.....	.....	10x15	544	544	..	4	70	500 80	853 11	853 11	....	Flynn & Satchwell....	Egg Shape
South Canal st..	Railroad place to Market st.........	.....	.....	18	799	799	2	5	2 49	3,471 95	4,057 22	1,648 92	2,408 30	Terence McManus....	She't'g left in tre'ch
First st	Warren st. to Dickerson st........	.....	.....	12 18	430 395	825	4	6	75 1 15	1,724 20	2,141 20	2,141 20	....	Flynn & Satchwell...	
			1 008		9,425	10,433	41	67		$22 209 78					

TABLE C.

PUBLIC SEWERS—1892.

Name.	Location.	Brick. Size In.	Brick. L'th	Pipe. Size. In.	Pipe. Len'th	Total Length	Basins	Manholes.	Cost per foot.	Final Estimate.	Total Cost.	Ass'm't. on Property	Ass'm't. on City.	Contractor.	Remarks.
Ann st........	Hamburg place to Elm Road........	....	.....	12	1,048	1,048	1	7	$ 55	$ 868 40	$ 1,387 10	$ 1,387 10	$....	Thomas O'Connor..	
Bergen st........	Warren st. to Bank st......	....	....	15 12	413 134	[illegible]	2	7	93 80	1,182 94	1,777 99	1,777 99	....	James Dolan..	
Bridge st........	Passaic River to Atlantic st	....	...	15 12	186 400	586	1	3	1 15 1 25	984 56	1,518 20	1,518 20	... .	Flynn & Satchwell..	
Central ave. & S. Seventh st..	Sixth st. to Bank st......	....	...	15 12	1,110 783	1,899	4	12	80 78	2,392 54	3,010 87	3,010 87	....	William Hughes.....	
Camden st......	Bank st. to Thirteenth ave.	.....	....	12	503	503	1	4	85	684 55	1,145 85	1,145 85	....	James McGuire.......	
Dey st..........	Sussex ave. to Central ave...........	.....		12	558	558	1	4	71	660 18	1,143 46	1,143 46	....	James Dolan..........	
Fairmount ave.	Bank st. to Thirteenth ave...........	.....		12	624	624	1	4	80	761 20	1,249 49	1,249 49	....	James McGuire.......	
Morris ave......	Warren st. to Bank st...............	....		15 12	501 426	927	3	7	81 71	1,251 27	1,789 78	1,789 78	....	James Dolan...	
Mt. Prospect and Abington aves.....	Mt. Prospect place to Berkeley ave. Mt. Prospect ave. to Parker st.....	20x30	540	18 15	490 528	2,558	11	15	2 10 1 46 1 35	7,245 20	8,231 20	8,147 35	83 85	Flynn & Satchwell....	Rock.
Polk st..........	Passaic ave. to Market st............	.....		15	493	493	..	4	85	539 05	1,001 86	1,001 86	....	Terence McManus....	
Seventh ave. & Gray st	North Thirteenth st. to Orange st....	....	.. .	15 12	657 373	1,030	5	6	80 75	1,592 85	2,152 30	1,834 32	317 98	William Hughes	
Wright st.......	Frelinghuysen ave. to Sherman ave..	.....	.....	12	413	413	..	3	70	379 10	804 00	804 00	....	James McGuire..	
			1,540		9,951	11,491	30	76		$18,541 84	$25,212 10	$24,810 27	401 83		

Table C.

PUBLIC SEWERS—1893.

Name.	Location.	Brick		Pipe.		Total Leng'h	Basins.	Manholes.	Cost per Foot.	Final Estimate.	Total Cost.	Ass'm't. on Property	Ass'm't. on City.	Contractor.	Remarks.
		Size. In.	L't'h	Size. In.	Len'th										
Frederick st.	Ferry st. to Market st.			15	770		2	5	$ 70	$ 922 00	$ 1,420 63	$ 1,420 63	$	James McGuire.	
N. Eleventh st.	Seventh ave. to Orange st.			12	447			3	74	435 78	890 60	890 60		R. Satchwell.	Rock.
Orchard st.	East Kinney st. to Walnut st			12	420			3	77	430 40	862 50	862 50		James A. Christie.	
Crittenden st. & Rowland st.	Belleville ave. to Bloomfield ave.			12 10	257 712		1	6	79 65	1,274 08	1,834 23	1,834 23		James McGuire.	Rock.
Peshine ave.	Clinton ave. 470 feet south.			12	521			4	65	458 65	894 32	804 32		James McGuire.	
Walnut st.	Van Buren st. to Sandford st.			12	468			3	50	319 76	754 96	754 96		James McGuire.	
James st.	Boyden st. to Nesbitt st.			15	673			5	87	814 51	1,331 31	1,331 31		William Hughes.	Rock.
Avon ave. and Belmont ave.	Badger ave. to Belmont ave. Avon ave. to Waverly place.			15 18 24	1,167 268 311		7	10	90 1 07 1 80	2,972 86	3,587 88	3,475 38	112 50	Headley & Christie.	
S. Thirteenth st.	Gould ave. to Ninth ave.			15	766		1	5	98	1,021 43	1,561 91	1,561 01		James McGuire.	
Second st.	Dickerson st. to Warren st.			15	917		3	6	90	1,742 80	2,259 17	2,169 52	89 65	Conway & Reynolds.	Rock.
Camp st.	Mulberry st. to Orchard st.			15	355			3	82	381 10	835 21	835 21		Headley & Christie.	
Fairmount ave.	Warren st. to Bank st.			15	1,481		5	11	85	2,495 85	3,079 45	3,079 45		Patrick Reynolds.	Rock.
Fairview ave.	Waverly place to Seventeenth ave.			15	1,242		3	7	86	1,620 12	2,101 70	2,101 70		Charles E. Brown.	
Warren place.	Warren st to New st.			15	495			3	85	510 75	955 20	955 20		John Hankele.	
						11,270	22	74		$15,400 09					

TABLE C.

PUBLIC SEWERS—1894.

Name.	Location	Brick.		Pipe.		Total Leng'h	Basins.	Manholes.	Cost per foot.	Final Estimate.	Total Cost.	Ass'm't. on Property.	Ass'm't. on City.	Contractor.	Remarks.
		Size In.	L'th	Size In.	Lent'h										
S. Eleventh st...	Springfield ave. to Woodland ave....	. . .	.....	15	425	425	..	3	$ 90	$ 472 50	$ 947 30	$ 947 30	$	Patrick Flynn	
South Tenth st..	Springfield ave. to Woodland ave ..	26x39	1,180	......	......	1,180	5	7	3 60	6,880 75	7,930 00	....	....	Patrick Flynn	
South Twelfth st	Springfield ave. to Woodland ave....	.....	.....	15	441	....	..	3	85	437 35	948 92	948 92	....	William J. Hughes	
Broad st...... Wright st. and Vanderpool st	Emmett st. to Poinier st....... Broad st. and Pennsylvania ave......	....	....	8 10	2,499 82	2,581	..	14	55 65	1,846 43	2,481 80	2,481 80	....	Headley & Christie	
Camden st.....	Warren st. to Bank st	....	.....	15	1,174	1,174	2	7	.....	1,616 40	2,200 90	1,773 81	....	Patrick Reynolds	
Railroad place Commerce st.	South Canal st. to Commerce st. . R. R place to Market st..	.... . .	....	15	616	616	..	3	90	981 76	1,558 96	....	427 09	Patrick Reynolds	
Eighteenth ave and Lillie st...	Boyd st. to Lillie st................. Eighteenth ave. to 17th ave.........	24x36	436	12	468	904	5	6	1 75 67	1,789 26	2,437 81	1,975 37	462 44	John Hunkele	
Wakeman ave. May st. and Summer ave...	Arlington ave. to May st...... ..... Wakeman ave. to Summer ave....... Arlington ave. to Chester ave........	... ...	....	15 15 10	828 1,103	1,931	3	11	65 42	1,648 71	2,271 61	....	... .	Patrick Flynn	
Lillie st.........	Eighteenth ave. to Waverly place....	...	.....	12	587	587	..	..	50	374 50	830 85	830 85	....	Michael Condon	
Vanderpool st...	Pennsylvania ave. to Elizabeth ave...	. . .	.....	10 8	376 725	1,101	..	7	42 40	629 67	1,181 02	1,181 02	....	Michael Condon	
Third st. and Fairmount ave	Dickerson st. to Warren st	.....	.....	12	828	828	1	4	55	741 90	....	....	....	James Maguire	
Niagara st.....	Ferry st. to Elizabeth st............	.....	.....	12 10	465 378	....	.. ..	.. ..	43 37	547 01	....	.. ..	....	Headley & Christie	
Columbia st....	Green st. to 40 feet S. of Hamilton st.	.. ..	.....	10 12 15	277 318 30	625	1	4	43 55	523 01	....	... .	....	Charles O'Connor	
Monroe st......	Market st. to Lafayette st............	.....	.....	12 15	1,132 622	1,754	1	10	42 59	1,175 32	....	....	....	Headley & Christie	
Littleton ave....	Warren st. to Bank st................	.....	....	15 12	448 731	1,179	2	7	51 45	947 43	....	....	....	Terence McManus	
			1,616		14,553	16,169	21	91		$20,662 00					

TABLE D.

PRIVATE SEWERS—1891.

Name.	Location.	Size of pipe. In.	Length in Feet.	Basi's	Man-holes.	Total Cost.	Contractor.	Persons built for.	Remarks.
Warwick st......	Between Pacific and Jefferson sts...........	12	120.0	......	1	$ 180 95	Thomas F. Kelley....	F. E. Totten.........	Extension.
Sheffield st.......	Between Nassau st. and Eighth ave.........	10	204.7	......	1	301 20	Edmund Bennett......	Frank Mauval..............	
Seventh ave.......	Between Mt. Prospect and Clifton aves.......	15	140 0	.....		192 50	Sanford Bros	Johanna Young.............	Extension.
Brunswick st.. ...	From Wright st. 155 feet south.............	12	170.3	......	1	195 00	P. H. Harrison........	Abby D. Gardner and others	
Fourteenth ave....	Between Morris ave. and Bruce st...........	15	193.7	......	1	295 25	Wm. V. Engleberger..	Ottilia Lehman.............	
Belmont ave.....	Between Bigelow and Alpine sts.............	12	636.0	......	3	2,581 74	Philip H. Harrison....	William O. Dixon...	
Ridgewood ave....	Between Bigelow and Alpine sts.............	12	736.2	......	3				
Bigelow st	Between Badger and Belmont aves..........	18	614.8	......	2				
Hillside ave.......	Between Clinton and Avon aves.	8	42.0	......	......	48 23	Isaac F. Jones........	George P. Gamble..........	Extension.
Camden st........	Between Bank st. and 13th ave	12	131.7	......	......	149 50	Albert Simpson........	Max J. Stilger..............	
Fifth ave..........	Between N. Ninth and N. Eleventh sts	12	222.9	......	1	260 40	George Matts	Sidney V. Lowell............	
Fifth avenue and	Between N. Ninth and N. Eleventh sts	12	75.8	1	1	493 40	George Matts.........	James A. Bannister....	
North Ninth st....	From Fifth ave. 425 feet north..........	10	425 0						
Ward st	Between Hamilton and Mechanic sts.........	12	153 0	......	1	266 00	Howarth Bros........	J. V. Vaughn......	
Chadwick ave....	Between Madison and Avon aves.	12	191.5	......	1	....	John Bollard..........	Carl F. Seitz....	
Elm st	Between Union and Pacific sts........	15	126.8	......	.....	119 46	Philip H. Harrison....	Henry E. Ogden.......	
Miller st	From Sherman ave. west	12	160.0	......	1	....	P. Regan.............	Estate E. Wilkinson........	
Waverly place...	Between High st. and Quitman st	10	157.1	......	1	345 00	Howarth Bros	Philip N. Jackson...........	
Orchard st.......	Between Beach st. and Walnut st............	10	74.0	......	.....	101 00	John F. Hough........	Henry Lang...	Extension.
North Seventh st..	Between Fourth and Fifth aves...	12	494.7	......	3	425 23	C. B. Pruden.	C. B. Pruden................	
Miller st..........	Between Broad st. and Penna. ave...........	10	312.9	......	2	325 50	Joseph A. Smith.......	S. J. Kutz, Agent............	
Merchant st.....	Between Ferry and Clover sts........	12	414.5	....	3	354 55	James Edwards.......	Francis Mackin.	
Garside st	Between Second and Third aves.............	15	483.7	....	3	1,033 00	Elias Berla..........	Estate William Crabb. ...	
Jackson st	Between Downing and Clover sts	12	179.2	.... .	1	200 00	Morris D. Macknet ..	A. Schrafft & Co............	
Jackson st........	Between Downing and Clover sts..........	12	55.0	.....	. ..	55 00	Morris D. Macknet....	Christopher Fleisner..... ..	
Madison ave.....	Between Badger and Clinton aves....	10	300.6	......	5	1,700 00	Henry Parliment	August Buerman...........	
Belmont ave. and	Between Madison and Avon aves	12	733 3	......	4				
Avon ave.........	Between Belmont ave. and Charlton st...... .	15	613.7	......	1				
Hunterdon st.....	Between Madison and Avon aves...........	12	105.0	......	1	... .	....	Carl F. Seitz........	
Monmouth st.....	Between Waverly place and Spruce st.......	12	394 0	.....	3	437 72	Philip H. Harrison....	James R. Rutan.............	
			8,662 1	1	44				

TABLE D.

PRIVATE SEWERS—1892.

Name.	Location.	Size of pipe. In.	Length in Feet.	Basi's	Man-holes.	Total Cost.	Contractor.	Persons built for.	Remarks.
South Twelfth st.	Between Ninth ave. and Gould ave.	12	123.0	....	....	$ 140 00	E. A. Bleything	Daniel Bradley	
South Eighth st.	Between South Orange ave. and 13th ave.	12	26.0	....	....	46 76	Theodore Geiser	Theodore Geiser	
Morris ave.	Between South Orange ave. and 14th ave.	12	128.0	....	1	255 75	E. Hoffman	August Goertz	
Monmouth st.	Between Waverly place and Spruce st.	12	102 0	....	1	149 10	James Maguire	John Parker	
Broome st	Between Waverly place and Spruce st.	12	30.0	....	....	30 00	James Maguire	John G. Weisenstein	
Camden st.	Between South Orange ave. and 14th ave.	12	44.0	....	1	95 00	E. Hoffman	Charles Schultz	
Seventh ave.	Between Mt. Prospect ave and Clifton ave.	15	42.0	..	....	....	....	Essex Brewing Co.	
Baldwin st. and Coe's place	Between Coe's place and High st.	10 12	250.3 146.8	1	2	497 10	Flynn & Satchwell	James A. Coe	Extension.
Ferguson st.	Between Market and Clover sts.	12	212.6	....	1	270 44	Newark H. V. & M. Co.	Newark H. V. & Machine Co	
Market st.	Between Chambers and Frederick sts.	12	145.7	....	1	....	Thomas J. Smith	M. A Smith	
Emmet st.	Between Frelinghuysen ave and Sherman ave.	10	281.7	....	2	241 08	Joseph A Smith	Henry Jerolomon	
S. Tenth, S. 11th & S. Twelfth sts.	Between Ninth ave. and Central ave.	12	1,587.4	3	10	2,078 10	Philip H. Harrison	Samuel Atwater and Anthony Q. Keasbey	
South Tenth .. South Eleventh & Central aves.	Between Central and Eleventh aves	15 18 24	2,268 9	3	13	3,626 60	Philip H. Harrison	Samuel Atwater and Anthony Q. Keasbey	
South Sixth st.	Between 15th ave. and 16th ave.	12	556 8	1	4	689 00	James Maguire	Paul Buchanan	
Sussex ave.	Between Jay st. and Norfolk st.	15	148.6	....	....	300 25	Wm. J. Hughes	John McCarthy	
Beecher st.	Between West Kinney and Halsey sts.	12	305.6	....	2	467 05	L. Kiesewetter	James S. Higble and others	
Astor st.	Between Broad st. and Pennsylvania ave.	10	297.1	....	3	350 00	Joseph Smith	George D. DeVore	
Shipman st.	Between William st. and Springfield ave.	15	92.0	....	1	276 75	James Maguire	Jacob Holle	
Hillside ave.	From Clinton ave. south	12	364.4	....	1	389 50	Flynn & Satchwell	George A. Beardsley	
Clifton ave.	Between Sixth and Seventh aves	12	101 0	....	....	110 00	Joseph Bowden	Gottlieb Hartung	Extension.
Thirteenth ave.	Between Wallace and Newton sts	8	30 0	....	1	....	Peter Keller	E. Flechman	
			7 284 9	8	44				

TABLE D.

PRIVATE SEWERS—1893.

Name.	Location.	Size of pipe. In.	Length in Feet.	Basi's	Man-holes.	Total Cost.	Contractor.	Persons built for.	Remarks.
Morris ave	Between South Orange ave. and 14th ave	12	205.1	1	1	$599 00	Pasqualla Cava	Antonio Gerrato	Extension.
Lafayette st	Between Polk st. and Sandford st	15	213.7	1	1	235 69	James Edwards	S. E. Robertson	
Garside st	Between Second and Third aves	15	353.0	......	2	413 20	Chris Levison	George W. Yohe	
Read st	Between Market st. and Providence st	15	653.7	......	4	865 20	Thomas O'Connor	Marcus L. Ward	
Astor st	Between Penna. ave. and Frelinghuysen ave	10	175.0	......	2	175 00	P. H. Harrison & Sons	Fred'k W. Speer	
Hunterdon st	Between Springfield ave. and 17th ave	12	414.0	......	2	....	James Sullivan	John Baier	
Sussex ave	Between Newark st. and Norfolk st	8	196.5	......	1	250 00	Patrick Flynn	Christian Hilfer	
Morris ave	Between West Kinney st. and 17th ave	10	311 4	......	2	407 80	Charles Strebinger	John Baier	
Alyea st	Between Darcy st. and Elizabeth st	15	510.2	.....	4	654 00	James Maguire	Jos. Hensler Brewing Co	
South Eleventh st	Between 17th and 18th aves	12	625.4	......	4	634 50	John Hunkele	Paul Buchanan and others	
S. Fourteenth st	Between Springfield and Woodland aves	15	137.1	.....	1	206 30	Patrick Flynn	Gustave Seibt & A. Wittig	
Brunswick st	Between Astor st and Wright st	12	70 0	......	1	165 50	Terence McManus	Alex T. Looker	Extension.
Chestnut st	Between Orchard and Mulberry sts	12	101.7	......	1	131 50	Dean & Price	F. W. Munn	
Fairmount ave	Between Bergen st. and Highland st	15	542.1	....	3	....	William J. Hughes	....	
Second st	Between Seventh ave. and Morris Canal	12	269.0	.....	2	312 50	John Hunkele	Richard E. Hunt	
Prince st	Between Waverly place and Spruce st	15	266.7	......	2	456 15	Charles E. Bond	Herman Joerchke	
			5,044.6	2	33				

TABLE D.

PRIVATE SEWERS—1894.

Name.	Location.	Size of pipe. In.	Length in Feet.	Basi's	Man-holes.	Total Cost.	Contractor.	Persons built for.	Remarks.
Skinkle st. and	South Tenth st. to Kent st	10	466.5	......	3	$ 770 00	William H. Gardner	Frank B. Allen	Wet soil.
Kent st	Skinkle st to Brenner st	10	289.9	......					
Wright st	Between Broad st and N. J. R. R. ave	8	284.6	......	1	222 50	Headley & Christie	Paul Brothers	
Central ave.	Between Second and Third sts	8	105.5	......	......	184 00	William F. Ruby	Nicholas Phillips	
Belleville ave	From Arlington ave. south	10 12	252.8	1	1	....	B. M. and J. F. Shanley	Consolidated Traction Co.	
Belleville ave	South of Arlington ave	10	103.0	.....	1	105 00	Headley & Christie	Christian Gisch	Extension.
Miller st	Between Elizabeth and Sherman aves	12	225.2	.....	1	231 40	Philip H. Harrison	George Rusher and others	
Somerset st	Between Avon ave. and Rose st	10	364.5	......	3	298 50	John Hunkele	Howard W. Hayes	
Thomas st	Between Orchard st. and N. J. R. R. ave	12	120.8	1	......	120 80	B. M. and J. F. Shanley	Consolidated Traction Co.	Extension.
Fifth st	Between Central ave. and Dickerson st	12	450.0	......	3	374 00	James Conway	John H. Kase	
South Fifteenth st.	Between Springfield ave. and City Line	12	456.2	......	8	1,538 40	Headley & Christie	Frank B. Allen	
		15	1,135.6	......					
			4,254.6	2	21				

Financial Statements.

To the Board of Street and Water Commissioners.

GENTLEMEN:

Herewith is presented the annual statement of expenditures in the various departments, under the control of your honorable Board.

ALEX. M. LINNETT,
Clerk.

STREETS AND HIGHWAYS—1894.

RECEIPTS.

Balance, 1893	$ 728 54	
Tax Ordinance	93,230 00	
Special appropriation	22,000 00	
Street openings	2,191 00	
Board of Horses, (Sewer Department)	3,600 00	
" " " (Lighting ")	300 00	
Consolidated Traction Co., Inspectors	660 88	
Newark & S. O. Railway Co., "	132 90	
Sale of old stone	281 93	
" horse	30 00	
Pound fees	37 35	
City dock fines	18 25	
Refund F. Corbett	6 00	
Miscellaneous	3 50	
Water department, labor	25 60	
		$123,245 95

DISBURSEMENTS.

Provinder	$ 2,913 40	
Carrots	17 60	
Meal and salt	3 85	
Drugs	34 00	
Gas	30 74	
Liniment	1 50	
Disinfectant	63 38	
Harness dressing	7 80	
Rent	850 00	
New carriage	125 00	
" horse	200 00	
Veterinary surgeon	134 25	
Carriage hire	9 50	
Coal	92 00	
Incidentals, Chas. Marsh	35 19	
Oil, etc	22 91	
Brushes, etc	4 25	
Incidentals, E. Adams	68 31	
Sprinkling streets	5 50	
Carpenter work	1 85	
Lumber	125 62	
Plumbers'	57 86	
Cleaning carpets	18 40	
Sand	5 50	
Iron work	6 18	
Concrete material	2 90	
White-washing	21 00	
Amount forward		$ 4,858 49

DISBURSEMENTS—CONTINUED.

Amount brought forward		$ 4,858 49	
Freights, etc., J. C. Mundy		14 74	
Insurance, horses and carts		54 00	
Telephone service		5 00	
Signs		2 50	
Brick		2 55	
Electric light wires in Halsey Street office		16 00	
Scale and mounting map		3 85	
Cement		5 75	
Stove, Halsey Street office		7 50	
Photographing, telegraph wires		52 00	
Harness and repairs		585 13	
Repair sweepers		319 06	
Advertising		1,343 75	
Inspectors'		843 90	
Blacksmithing		1,237 09	
Repaving streets		3,617 07	
Cracked stone		4,452 81	
J. Coult, Barber Asphalt & Steam R. R.		400 00	
Knight & Knight, transcript		145 10	
Geo. W. Cassidy, taking testimony		55 60	
Books, stationery, etc		488 60	
Tools and hardware		1,656 03	
Pay roll offices		4,200 00	
" " laborers, January	$ 5,186 22		
February	4 886 66		
March	12,387 09		
April	19,160 67		
May	9,761 49		
June	8,927 15		
July	10,906 89		
August	4,655 12		
September	2,807 91		
October	9,202 93		
November	5,424 59		
December	$ 5,320 39		
		98,627 11	
Unexpended balance		252 32	
			$123,245 95

MAINTENANCE OF ARMORY—1894.

RECEIPTS.

Balance, 1893	$ 70 20	
Tax ordinance	2,084 00	
		$2,154 20

DISBURSEMENTS.

Gas	$427 38	
Plumbing	11 25	
Repairing	4 65	
Coal	390 00	
Insurance	300 00	
" on boiler	100 00	
Hardware	84 19	
Repairing	9 75	
Lumber	3 51	
Labor	5 00	
Pay roll	712 00	
Unexpended balance	106 47	
		$2.154 20

CROSS WALKS—1894.

RECEIPTS.

Balance, 1893	$ 76 53	
Tax ordinance	5,286 00	
Refund of warrant	13 54	
		$5,376 07

DISBURSEMENTS.

Rammer		$ 7 00	
Blacksmithing		29 68	
Cement		3 00	
Flag stone		28 79	
Hardware		92	
Car fare		16 25	
Pay roll, January	$ 80 00		
February	80 00		
March	645 16		
April	1,047 60		
May	1,001 16		
June	109 33		
July	398 54		
August	542 45		
September	285 00		
October	592 78		
November	361 15		
December	72 00		
		5,215 17	
Unexpended balance		75 26	
			$5,376 07

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BRIDGES—1894.

RECEIPTS.

Balance. 1893	$ 111 12	
Tax ordinance	2,597 00	
Sale of old lumber, Broad Street	15 00	
		$2,723 12

DISBURSEMENTS.

Brushes, putty, etc	$ 4 96	
Paints and Oil	9 90	
Bridge material	179 96	
Lumber	311 69	
Hardware	11 43	
Repairing Broad Street bridge	455 00	
Pay roll	71 68	
Unexpended balance	1,678 50	
		$2.723 12

PUBLIC GROUNDS—1894.

RECEIPTS.

Balance, 1893	$ 27 46	
Tax ordinance	4,149 00	
Removing trees	6 35	
Sale of wood	88 46	
Appropriation	1,000 00	
"	800 00	
		$6,071 27

DISBURSEMENTS.

Repairing seats and signs	$ 136 26	
Bone dust	151 25	
Hardware	59 61	
Grass seed	19 45	
Repairing saws, etc	10 35	
Flag stones, Phillips Park	388 24	
Repairing fountain, Jackson Park	12 96	
" iron fence, Trinity Church	10 00	
Removing logs	21 00	
Amount forward		$ 809 12

DISBURSEMENTS—CONTINUED.

Amount brought forward		$ 809 12	
Ladder		5 00	
Signs		6 00	
Paint skins		1 25	
Pay roll, January	$132 69		
February	233 28		
March	330 79		
April	261 28		
May	346 47		
June	436 06		
July	517 94		
August	405 78		
September	375 82		
October	358 20		
November	39 73		
December	83 39		
		3,521 43	
Unexpended balance		1,728 47	
			$6,071 27

PUBLIC BATHS—1894.

RECEIPTS.

Balance, 1893	$2,874 60	
Tax ordinance	2,805 00	
Rent of towels	52 15	
		$5,731 75

DISBURSEMENTS.

Dock rent, Electric Light and Power Co	$ 150 00	
" " Mrs. Brady	150 00	
" " J. V. Hedden & Son	266 67	
Lumber	25 68	
Hardware	69 08	
Towing	60 00	
Insurance	32 50	
Dockage	15 00	
Empty barrels	39 00	
Towels, suits, soap, etc	15 28	
Care houses, 1893	25 00	
Washing towels	8 00	
Catching houses, (broke away)	20 00	
Awning, ice, etc	18 25	
Services, attendants	863 27	
Unexpended balance	3,974 02	
		$5,731 75

SIDEWALKS—1894.

RECEIPTS.

Balance, 1893	$1,807 54	
Tax ordinance	2,084 00	
		$3,891 54

DISBURSEMENTS.

Incidentals, Chas. Marsh		$ 16 54	
Signs, etc		16 50	
Stationery		62 00	
Car fare		8 75	
Reflaging North Canal Street		128 75	
" west side Military Park		670 36	
Pay roll, January	$204 00		
February	204 00		
March	255 00		
April	204 00		
May	204 00		
June	30 00		
July	15 00		
August	95 00		
September	120 00		
October	150 00		
November	120 00		
December	120 00		
		1,721 00	
Unexpended balance		1,267 64	
			$3,891 54

SEWERS AND DRAINAGE-1894.

RECEIPTS.

Balance, 1893	$ 220 82	
Tax Ordinance	46,618 00	
Permits	9,605 00	
Sale of maps	2 00	
Consolidated Traction Co., repairing manholes	60 71	
Sale of old oil barrels	4 95	
Newark Gas Light Co	11 65	
East Orange Township, (advertising)	103 60	
		$56,626 73

DISBURSEMENTS.

Pumping station		
Coal	$ 1,718 33	
Oil, etc	408 56	
Repairing	123 61	
Carpenter work	48 70	
Amount forward		$2,299 20

DISBURSEMENTS—CONTINUED.

Amount brought forward		$ 2,299 20	
Telephone		100 30	
Hardware		178 51	
Adjusting scales		5 00	
Water rent		830 00	
Insurance		150 00	
Cleaning deposit vaults		150 00	
Ice		19 20	
E. Adams, incidentals		163 23	
Lumber		203 10	
Bags		33 60	
Hoops		4 40	
Disinfectant		180 00	
Coal		9 50	
Rubber boots		39 00	
Stationery		234 00	
Insurance		30 00	
B. S. & W. C., labor and material		15 80	
Rope		8 15	
Wrought iron		19 50	
Repair pavement		28 00	
" buckets		6 88	
Horse blankets		38 50	
Sand		4 50	
Veterinary surgeon		97 75	
Rubber hose		241 50	
Joseph Coult, E. O. Sewer		107 43	
Horse for surveyor		200 00	
Care of horses		3,600 00	
Repair Peddie Street ditch		103 01	
Blacksmithing		468 61	
Manhole castings		316 75	
Hardware		560 74	
Repairing harness		81 90	
Advertising		264 30	
Constructing sewer basins		737 15	
Brick and cement		290 25	
Inspectors E. O. Sewer		960 00	
Pay roll, January	$2,456 36		
February	2,274 06		
March	5,274 37		
April	5,223 44		
May	3,417 00		
June	2,715 19		
July	3,417 94		
August	3,013 30		
September	2,339 62		
October	3,534 05		
November	2,724 48		
December	3,116 96		
		39,506 77	
Unexpended balance		4,340 20	
			$56,626 73

PUBLIC LIGHTING—1894.

RECEIPTS.

Balance, 1893	$ 36,344 40	
Tax ordinance	155,398 00	
Sds	36 20	
		$191,778 60

DISBURSEMENTS.

Electric lights	$126,811 15	
Gas " Citizens Co	17.343 84	
" " Newark "	31,358 33	
Plumbing	1,716 81	
Glass, oils, etc	305 92	
Blacksmithing	99 35	
Horse	115 00	
" care of	300 00	
Stationery	32 40	
Chemicals	7 95	
Inspectors office, expense Center Market	52 40	
Janitors " " " "	64 35	
Horse hire	6 00	
Veterinary	22 00	
Hardware	42 91	
Salaries	3,937 50	
Balance	9,562 69	
		$191,778 60

Public Lighting.

To the Honorable the Board of Street and Water Commissioners of the City of Newark.

GENTLEMEN :

Herewith is presented my report for the year ending December 31st, 1894. As far as the records in my office show, no account was kept of the work done up to July 1st, 1894. Since that time however, all work done or material furnished, has been recorded on suitable books kept for that purpose.

The number of public gas lamps in use on December 31st, 1893, was		2,788
Added during 1894		126
		2,914
Less lamps discontinued by substitution of Electric Lights		580
Total in use December 31st, 1894		2,334
Newark Gas Light Co	1,469	
Citizens " " "	865	
	2,334	
Whole number of Electric Lights in use on December 31st, 1893		916
Added during 1894		349
Total number in use December 31st, 1894		1,265

A large part of the labor connected with this department is the care of the gas lamp. Of these 101 were erected, 162 taken up and removed; 5,929 lights of glass put in 4,720 lamps, during the six months since I have had charge of this department.

Respectfully submitted,

JNO. H. HUEGEL,

Superintendent Public Lighting.

OCT 10 1904

332995

Annual Report

OF THE

BOARD OF

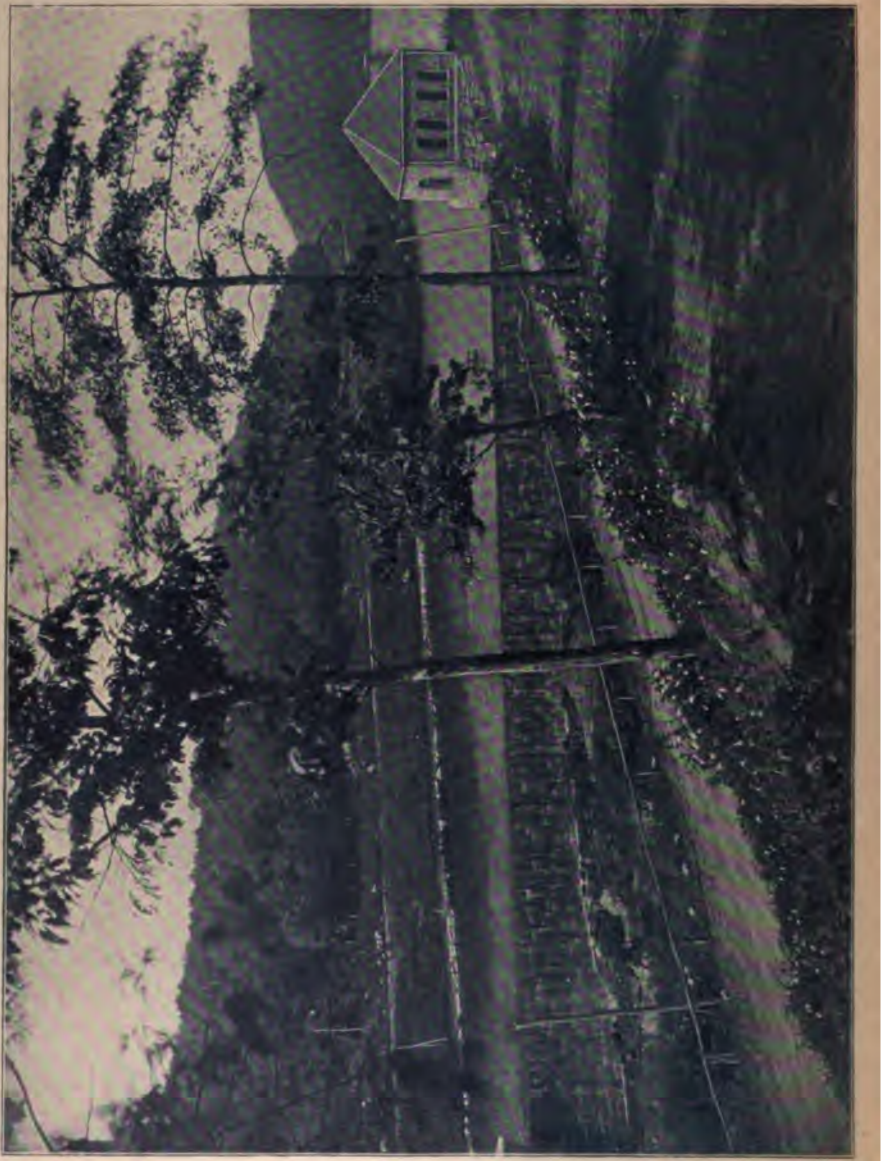
Street and Water Commissioners

OF THE

CITY OF NEWARK, N. J.

FOR THE YEAR ENDED

December 31, 1895.



ANNUAL REPORT

OF THE

BOARD OF
Street AND Water Commissioners

OF THE

CITY OF NEWARK, N. J.

For the Year ended December 31st, 1895.

Officers and Members.

President,	HARRISON VAN DUYNE, No. 781 Broad Street.
Counsel,	CHANDLER W. RIKER, 534-537 Prudential Bldg.
Clerk,	ALEX. M. LINNETT, No. 77 Lincoln Park.
General Supt. of Works,	J. CROWELL MUNDY, No. 259 Belleville Ave.
Engineer Dept. Water,	MORRIS R. SHERRERD, No. 534 Broad St.
Engineer Dept. Streets and Sewers,	ERNEST ADAM, No. 326 Halsey Street.

COMMISSIONERS.	RESIDENCE.
HARRISON VAN DUYNE,	*No. 350 Summer Avenue.*
WILLIAM STAINSBY,	*" 1131 Broad Street.*
JOHN J. BURKHARDT,	*" 259 Ferry Street.*
HENRY R. BAILEY,	*" 223 Fairmount Avenue.*
ABRAM JORALEMON,	*" 25 Johnson Avenue.*

NEWARK, N. J.:
MADISON & CO., STATIONERS AND PRINTERS,
24 CLINTON STREET.
1896.

332995

To the Honorable the Mayor and Common Council of the City of Newark, N. J.

Pursuant to law, the Board of Street and Water Commissioners of the City of Newark, N. J., hereby presents its annual report, showing the condition of the public works and property of the City under the government, control and management of said Board, for the fiscal year ended December 31, 1895.

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ASTOR, LENOX AND
TILDEN FOUNDATIONS.
1904

To the Board of Street and Water Commissioners of the City of Newark, N. J.

GENTLEMEN :

I herewith present the reports and financial statements of the several departments of the City government under your control.

Respectfully yours,

J. CROWELL MUNDY,

General Superintendent of Works.

Report of the Engineer

Of THE DEPARTMENT OF WATER.

To the Board of Street and Water Commissioners of the City of Newark, N. J.

GENTLEMEN :

I herewith respectfully submit the following report of the condition and operation of the works of the Department of Water, for the year ended December 31, 1895.

The Pumping Stations.

Mr. E. C. Butts, Engineer in charge of the Pumping Department. reports that during the year no water was pumped from the Passaic River at the Belleville Pumping Station for the supply of the city. the supply having been entirely from the water-shed of the Pequannock River. The boilers have been fired only for the purpose of generating steam for two days in each month, in order to test the pumping machinery, to keep the same in good working condition and ready for any emergency that might arise through a sudden failure of the new water supply; also during the cold season sufficient for heating purposes. The boilers however, are kept constantly in readiness to be fired upon short notice. The pumps and boilers at both stations are in good working order, and have needed but few repairs, such only as could be attended to by the employees at the stations; the only exception being that of patching boiler No. 5 at the Belleville Pumping Station.

From January 30th at 8.15 A. M. to February 3d, 10 A. M. Pump No 3 at the Clifton Avenue station was in continuous operation supplying the "Special" High Service, owing to the interruption to the supply from the water-shed to repair a leak on the supply conduit at Little Falls.

Pump No 1 at the Clifton Avenue station having a capacity of 3,000,000 gallons which was offered for sale, has not as yet been disposed of.

From October 27th, the repairing of water meters has been done at the Belleville Pumping Station by the engineer in charge and his assistant, Mr. O. T. Born.

Pump Mains Nos. 1 and 2, and Supply Mains Nos. 1 and 2.

Very little work has been necessary upon these mains. Where No. 2 supply main crosses Second River a blow-off valve cracked, due to freezing. A new blow-off located in a less exposed place at the north end of the bridge was substituted. In shutting off the main for this change, the stem of one of the 30 inch gates was broken. To avoid the delay and consequent loss of the use of this feeder for the low service reservoir, the gate was cut out and a piece of straight pipe substituted. The gate has been repaired, and it is the intention to replace it at a convenient time.

The Receiving Reservoir at Belleville.

This reservoir remains in good condition, no repairs of any kind having been needed. The screen tower and out-let gate house should have some attention during the next year, slight repairs being advisable.

The Low Service Reservoir.

This reservoir has received considerable attention during the year. In September a leak developed through the slope wall on the south side and a gradual settlement of the wall was taking place. The reservoir was drawn off, the low service being supplied from the Belleville reservoir. This increased the pressure on the low service distribution, causing several breaks in the old mains but gave an opportunity to repair these weak points before winter, and reduced the likelihood of having breaks when the distribution became normal again.

The emptying of the reservoir showed that there was not only a leak in the slope wall at the point noticed on the south side, but also that the bank had settled away from the slope wall in many places, and that there were slight leaks into the old quarry through the bottom of the reservoir. The slope wall was taken down at the point where the water seemed to escape through the bank and this portion of the bank carefully repaired with puddle. At other places around the slope where settlement of the banks had occurred, small openings were made through the slope wall, and concrete made of sea gravel and cement, was carefully rammed into these spaces. This work was carried on carefully around the entire wall and all loose pointing was picked out and the entire slope wall repointed with Portland cement. The small depressions showing in the bottom of the reservoir which were generally about the size of a pail, were repaired by digging holes from 8 to 10 feet in diameter around the same and about 4 feet deep and carefully filling the holes with puddle. While these repairs were in progress the opportunity was taken to clean the entire sides and bottom of the reservoir, and also to construct a stand-pipe from the 12 inch discharge pipe which runs from the bottom of the reservoir to the Branch Brook sewer and is used to empty the reservoir. This stand-pipe being arranged to act as an over flow or waste-way to prevent the possibility of the reservoir being filled higher than the top of the stand-pipe which is placed at the height to which it is deemed advisable to allow the reservoir to be filled. It took about six weeks to complete this work and the cost was approximately $3,000. While the expense was considerable it is believed that the reservoir is now in much better shape than it has been for years. In connection with the report on this reservoir it may be well to state that it seems advisable to connect the 24 inch main which was laid last year on 7th Avenue (from the 36 inch conduit to the low service reservoir) around the reservoir to the present "Special" High Service main in front of the Clifton Avenue pump house. This recommendation is referred to more fully under "Proposed New Feeders".

High Service Reservoir.

No repairs have been necessary on this reservoir during the year, it is however, proposed to make some changes in the piping arrangements of said reservoir during the coming year for the purpose of additional feed; this arrangement is also referred to under "Proposed New Feeders". The changes in the piping of the reservoir itself necessary to supply this new feeder would be to cut out the check valve at the reservoir on the pump main from the regular high service pumps, and to place a screening arrangement on the reservoir end of said pump main. This change would not interfere with the pipe being used for a pump main should the necessity arise for doing so, as the line is also provided with a check valve near the pumps.

The "Special" High Service.

This distribution ir supplied directly from the 36 inch conduit and the pressure ordinarily carried for the same is equivalent to about 55 feet above the South Orange Avenue reservoir. It is clear that this arrangement for supplying so large a portion of the city is not all that might be desired, since any interruption if only for a few minutes of the flow of water in the conduit from the water-shed immediately leaves this service without an adequate supply, and large portions of the same without any supply at all.

While the Clifton Avenue pumping station is maintained, this pressure may be furnished by pumping, but interruptions in the supply for short intervals are bound to occur, as has already been experienced. For these reasons and because the necessity for maintaining the pumping stations should be eliminated, the advisability of having a special high service reservoir is apparent. Such a reservoir should be high enough to supply the highest parts of the city, and if possible without prohibitory additional cost be made a storage reservoir, but its important essential should be to utilize the height of delivery provided by the conduit. The conditions are now different from those that existed at the time of the projected Ivy Hill reservoir. Then the existence of only one conduit from the water-shed made the matter of storage in the city, a question of more importance than the selection of a site which would furnish adequate pressure for the highest parts of the city, but since the construction of a second conduit from the water-shed is assured, the latter consideration becomes the more important. A location which will meet this requirement does not exist within the city limits and can only be obtained at a considerable distance, or if the Ivy Hill tract be available, an entire change of plan in connection with any work at that point would be advisable. This matter has been under consideration for some time, and upon a full investigation will be made the subject of a special report.

Consumption.

The number of new taps made during the year was 1,109 (an increase of 137 over the previous year), of this number 454 were on low service and 655 on high service.

Adding these new taps to the total number as given in last year's report gives the total number of taps to the first of January, 1896, as 29,646; of which number 16,699 were on low service, and 12,947 on high service. These totals include some taps which have been made and are now abandoned, but do not include those made for fire protection which range in size from two to eight inches. During last year there were 22, 2 inch connections; 4, 3 inch connections; 1, 4 inch and 9, 6 inch connections, giving a total of 36 large connections made for this purpose; the number of these large connections will about offset the number of small taps abandoned during the year, so that the total number of taps as given above, namely 29,646, will approximately represent the number actually in service. The following table shows the delivery of water to the several reservoirs, these quantities are made up from our own readings of the meters on the conduits and are compared each month with the reports from the East Jersey Water Company. The comparison of the daily averages by months, and the fact that excessive draughts sometimes continuing for a week at a time during extreme cold weather, indicate that our average consumption has increased about two million gallons per day during the past year, and that times are apt to occur each winter when the daily consumption greatly exceeds the 27½ million gallons we are entitled to receive under the City's contract with the East Jersey Water Company.

A more general introduction of meters to include the metering of all services except those for private houses would be likely to result in holding the daily average below our maximum quantity for a few years, possibly until 1900, and the enforcement of a penalty for waste or a requirement to place meters on services where waste to prevent freezing is known to take place, as well as more stringent regulations in regard to plumbing which would look to the placing of pipes in less exposed parts of buildings than at present, would result in stopping a great deal of this waste.

Our limited storage capacity will not make up for the extra draught which is usually caused by cold snaps for more than three days, and it seems to be the habit of consumers who find it necessary to allow the water to run to waste to prevent their pipes from freezing, to continue this waste for some days after the end of the cold snap ; as this condition of affairs is likely to draw our reservoirs very low several times during the winter months, a serious consideration of the subject will be necessary during the coming year. The diagram shows the consumption per month since the new water supply was introduced, and the tables appended give detailed information in regard to services, meters, etc.

Consumption Statement for the Year ended Dec. 31, 1895.

MONTHS.	Total Consumption per month, Million Gallons.	Average Daily consumption, Million Gallons.	No. of Taps at beginnig of each month.	No. of Gallons per Tap.	Mean Temperature	Rainfall in Inches.
January, 1895	712.1	22.9	28,537	802	28.5	5.55
February, “	743.3	26.5	28,556	928	24.5	0.88
March, “	657.0	21.2	28,576	742	36.7	2.75
April, “	567.9	18 9	28,653	661	49.1	4.49
May, “	613.9	19.8	28,766	688	61.4	2.84
June, “	650.7	21.7	28,876	751	71.9	3.91
July, “	659.0	21.3	28,978	735	71.7	4.72
August, “	701.6	22 6	29,094	777	75.2	3.41
September, “	699.0	23.3	29,211	797	70.2	0.64
October, “	713.3	23.0	29,343	784	50.0	4.64
November “	661.9	22.1	29,500	752	45.6	3.74
December, “	706.8	22 8	29,581	772	36.8	2 67

Total rainfall for the year........................40 24 inches.

Average Daily Consumption,................22,200,000 Gallons.

“ “ “ per tap................748 “

Approximate number of taps at the end of the year.......29,646.

35
30
20
10

Distribution.

The extensions to street mains in the City during the year 1895 were as follows:

219 feet of 20 inch pipe.
1,528 " 12 " "
811 " 8 " "
26,142 " 6 " "

Total 28,700 feet or $5\frac{2300}{5280}$ miles.

Belleville Township laid 2917 feet of six inch pipe.

And the Irvington Water Co. 600 feet of 6 inch pipe,
and 400 " 4 " "

The total length of pipe connected with the works is as follows:

In the city,	$210\frac{556}{5280}$	miles.
In the suburbs,		
Irvington Village	$6\frac{3433}{5280}$	miles.
Belleville Village	$7\frac{2877}{5280}$	"
Vailsburgh (Columbia Heights)	$1\frac{2695}{5280}$	"
South Orange Ave. (Shooting Park)	$\frac{1700}{5280}$	"
Clinton Township	$\frac{4900}{5280}$	"
Total, City and Suburbs	$227\frac{1381}{5280}$	miles.

The amount of work done in relaying was as follows:

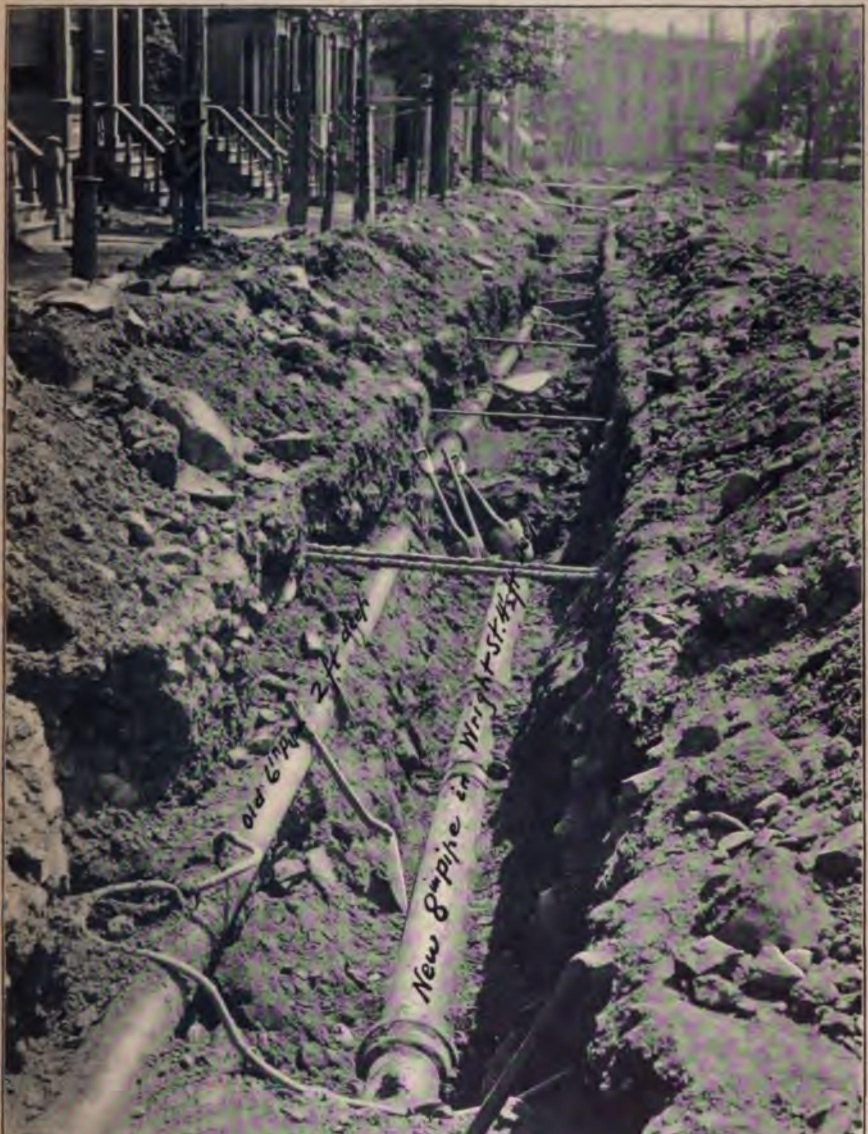
114 feet of 10 inch pipe.
7 903 " 8 " "
17,630 " 6 " "
217 " 4 " "

Total 25,964 feet or $4\frac{4844}{5280}$ miles.

The work done in the way of lowering pipes is represented by the following:

17,745	feet of	6	inch	pipe.
530	"	4	"	"
Total 18,275 feet or $3\frac{2435}{5280}$ miles.				

The large amount of paving done during the year and the proposed continuation of the same, has of necessity greatly increased the amount of work of the Water Department in its endeavor to place all of the distribution under new pavements in such a condition as far as possible to avoid the necessity of tearing up such newly paved streets. This work has been done as economically as possible, but the cost per foot is not likely to figure quite as low as work heretofore done, for the reason that all mains have been laid at an average depth of one foot deeper (to prevent the freezing of the services) than most of the piping previously done, and greater care and more labor was required in replacing the earth to prevent settlement as far as possible. On many streets about to be paved and where it was not necessary to lay new or larger mains, it was found advisable to lower the mains to prevent freezing. The mains were in some instances less than three feet deep. The practice this last year has been to lay all new distributing mains four and one-half feet deep, and to lower all mains found to be less than three feet three inches in depth. When mains were found to be three and one-half feet deep, the taps were transferred to the side of the pipe, and when found three feet nine inches deep, the taps were placed part way down the side. These changes were also made on some streets where frozen services were reported during the winter of 1894 and 5, even though it was not contemplated to pave these



Laying New Main in Wright Street.

streets at the present time. The transfer of taps was made because the principal trouble from freezing occurred at the goose-neck where service pipes were connected with the mains. Most of the streets where frozen services were reported have been placed in better condition, but some of this work still remains to be done, and it is recommended that the same be continued.

The policy of the Board to lay and to retain no mains less than six inches in size has been followed, and for additional feed and fire protection several closely built up portions of the City have been provided with larger distributing mains. Particularly in that portion of the City between Broad, Market, New Jersey R. R. Ave. and South Street; also eight inch mains were laid in Wright Street from Broad Street to Clinton Avenue, and in Clark Street from Belleville Avenue to Passaic Street.

The work which has resulted in the greatest improvement of the distribution, and has been appreciated by every one connected with the Water Department, has been the replacing of the old horizontal cast pipe by new mains. About five miles of this pipe was taken out during the year, leaving about the same number of miles of this treacherous pipe still in use. This pipe has been removed on the streets where breaks most often occurred, and it is hoped that one more year's work in this direction will prove a great saving in the expense of repairs.

New adjustable iron valve boxes and adjustable iron curb boxes have been used on all new work, and substituted for the old style wooden boxes on all streets paved. All valves were examined and repaired, or new ones substituted where necessary before pavements were laid. Valves were also placed on all hydrant branches, and many new hydrants set where pavements were laid. In the center of the City many large fire hydrants were also set. During the year the total number of new hydrants set was 220 and it has been the policy to gradually replace the old style of wood-cased hydrants instead of making repairs to the same, as it is necessary to dig down to the working parts of the old hydrants to make repairs which is not the case with a modern hydrant. In this connection it is well to state that there are still about 1,000 old style hydrants in use, which should gradually be replaced and at a rate as least as rapid as last year. This means an expenditure for the one item of setting new hydrants of about $10,000 per year to maintain the fire service in good condition, while all the return this Department gets for not only placing fire hydrants and keeping them in repair but also furnishing water for the same, is an appropriation of between $6,000 and $7,000 per year. The appropriation for this purpose should be increased, and due credit given the Water Department for an item which to a private company would prove a fruitful source of revenue

During the year five and one-half miles of extensions to mains (mostly six inches in size) were laid, and three and one-half miles of mains lowered. The nature of some of this work is shown in the cut of the work on Wright Street, where the new 8 inch main had to be laid two feet lower than the old main to get down below the frost line. The relative depths are shown by comparison with a shovel (which is three feet long) standing in the ditch.

The most serious effects of electrolysis were noticed on Belmont Avenue near Eighteenth Avenue It was necessary to renew the services for two blocks on each side of Eighteenth Avenue. The larger portion of the expense of this work was borne by the Traction Company. Isolated cases of electrolitic action were noticed in other localities, but it is believed that the precautions taken by the trolley companies under the direction of your electrical expert, have very materially lessened this cause of trouble.

The increased revenues of the Water Department in 1895 over 1894 amounted to about $31,500; and the increase in appropriations to $20,000, making a total of $51,500. As the cash balance on hand January 1, 1896 was only $189.75 more than the cash balance January 1, 1895, practically all of this amount was spent on the plant in 1895 in excess of the amount expended in 1894 in the following proportions:

$40,000 for relaying and lowering mains. $4,500 more for extensions. $7,000 more for hydrants.

More than twice as much work was done directly by the Department during last year than in any one year. Detail statements of work done and cost of the same are appended.

Proposed New Feeders.

In order that the work of extending and relaying mains may proceed in a systematic manner in advance of the pavements proposed to be laid, a map showing the different distributions, and indicating the proposed feeders has been prepared. It is advisable to lay several of these feeders this year, even though it is not immediately proposed to pave the streets upon which they are recommended to be laid; one reason for this is to allow at least a year for the trenches to settle before the pavements are laid, but a more important reason is to provide an increased supply in certain sections where the same is much needed. This lack of supply is particularly noticeable in the Forest Hill district, around Belmont Avenue and Waverly Place, and in the eastern part of the City, between Ferry Street and Lister Avenue. The introduction of Pequannock water seems to have increased the consumption and demand for the benefits of the water supply to a much greater degree than was expected, and it is now true that comparatively large sections are supplied through six inch pipe without additional feeders having been provided. In such localities the supply of water for fire protection is sometimes only adequate to feed one steamer. Since 1890 the average consumption has increased nearly six million gallons per day, and this extra draught on the distribution system will account for the immediate necessity to provide additional feeders. The following feeders are recommended to be laid during the next year :

A 24 inch main on South Orange Avenue from the High Service reservoir to Littleton Avenue, to complete main feeder.

A 20 inch main on Sixth Street from South Orange Avenue to Seventh Avenue, and a 16 inch main on the same street from Seventh Avenue to Fifth Avenue to get the same laid before Sixth Street is paved.

A 20 inch main on Seventh Avenue from North Fifth Street to North Sixth Street to connect the North Sixth Street main with the present main in Seventh Avenue at North Fifth Street.

A 20 inch main on Drift Street and around the Low Service reservoir to connect the above mentioned Seventh Avenue main with the Clifton Avenue mains.

A 20 inch main in Jefferson Street from Walnut Street to South Street, to extend present feeders in advance of proposed pavements.

A 16 inch main on South Ninth Street from South Orange Avenue to Fourteenth Avenue and a 12 inch main on Fourteenth Avenue from South Tenth Street to Hunterdon Street for additional feed on the Special High Service distribution.

A 12 inch main in St. Charles Street, Berlin Street, Avenue L., Horatio Street and Manufacturers Place to Ferry Street, for additional feed and fire protection.

A 10 inch main in Ferry Street from Chapel Street to Blanchard Street, and in Chapel Street from Ferry Street to Passaic Ave., for additional feed and fire protection.

And 8 inch mains in New Jersey Railroad Avenue from Market Street to Walnut Street, in New Street from Broad Street to Plane Street, in Bank Street from Broad Street to Plane Street, and in Green Street from Broad Street to Mulberry Street, for additional supply.

Several breaks have occured on Market Street between Washington Street and the Pennsylvania Railroad, due to the old pipe still in use there. Many water takers both on this part of Market Street and on Broad Street between Market Street and State Street are supplied by an old three inch pipe which is in a very dirty and unsafe condition. New distributing mains should be laid on these streets and the old pipe abandoned as soon as practicable.

Real Estate.

No sales of real estate were made during the year. The Board has however, transferred the Branch Brook tract (which was originally dedicated for park purposes) to the Essex County Park Commission, with the reservation of the right to lay such pipes and do such work on the Low Service reservoir as may be necessary.

The New Water Supply.

The quality of the water during the past year has been satisfactory. The East Jersey Water Company has furnished the Board with statements based upon their observations and measurements of the rain-fall, yield of the water-shed and the daily consumption. Steps were taken during the year to introduce on the part of the City an entirely independent set of measurements, and weirs were constructed to measure the run-off from both the Oak Ridge and Clinton drainage areas as well as the draught upon the said reservoirs. An automatic recording guage has also been placed at Macopin Intake which measures the height of water flowing over the dam and from which the run-off of the whole water-shed is computed. Rain guages have been placed at two points in the water-shed and a record of the rain-fall kept by the City. The data collected shows an insufficiency in the storage capacity to maintain a yield of 50 million gallons per day, as is required by the contract before a final acceptance of the works in 1900.

It is understood that the East Jersey Water Company propose to increase the storage capacity during the coming year. Arrangements have also been consummated (prior to the date at which this is written) which assures the City practically a duplicate pipe line from Macopin Intake to Belleville reservoir. Several views of the weirs in the water-shed and also of the reservoirs and Intake accompany this report.

Respectfully submitted,

M. R. SHERRERD,

Engineer Department of Water.

DETAIL STATEMENTS

to accompany

Report of the Engineer,

Department of Water.

STATEMENT OF STREET MAINS LAID DURING THE YEAR ENDED DECEMBER 31st, 1895.

	LOCATION	FEET	COST
Jan. 1895	Six inch main......................... Carlisle Place, from Ogden to Passaic Sts., Passaic St., Carlisle Place, north to dead end...	446	$ 448 21
Jan.	Six inch main......................... Ridge Street, from Montclair Avenue, south about 400 feet.......................	412	304 11
April	Six inch main.................... ..... Lake Street, from Grafton Ave. to Montclair Avenue............................	933	639 41
April	Six inch main..................... ... Highland Avenue, from Verona Avenue to Montclair Avenue....................	364	236 64
April	Six inch main.................... .... Hunter Street, from Sherman Avenue, west.	174	139 56
May	Six inch main......................... East Fair Street, from N. J. R. R. Ave. to Liberty Street.......................	303	257 41
May	Six inch main......................... Goble Street, from Emmet St. to Astor St...	277	182 58
May	Six inch main......................... Sixth Avenue, from 13th Street to the City Line...............	232	149 16
May	Six inch main.................. ... New York Avenue, from Houston Street to Napoleon Street......................	217	164 53
May	Six inch main......................... Bigelow Street, from Johnson Avenue to Hillside Avenue....................	295	199 84
June	12 inch main......................... Fourteenth Avenue, from Bruce Street to Morris Avenue.......................	312	512 69
	Amount forward.......................		$ 3,234 14

STATEMENT OF STREET MAINS LAID—Continued.

	LOCATION	FEET	COST
	Amount brought forward		$ 3,234 14
June 1895	Six inch main Lockwood Street, from Lister Avenue south 111 feet	111	119 01
June	Six inch main Garrison Street, from Hamburg Place to Elm Road	1,[illegible]	1.000 38
June	Six inch main Schalk Street, from Passaic Ave. to Ferry Street	886	618 45
July	Six inch main 18th Avenue, from Lillie Street to Fairview Avenue, and from Hunterdon Street to Magnolia Street	795	593 82
July	Six inch main First Avenue, from Third St. to Fourth St.	220	173 72
July	Six inch main 20th Street, from South Orange Avenue to 12th Avenue	1,435	1,010 72
July	Six inch main South 15th Street, from dead end north of 9th Ave., about 150 feet, to City Line	411	281 93
July	Six inch main Vincent St., from former terminus of main, 248 feet south of Horatio Street, south 48 feet	48	36 84
August	Six inch main with eight inch connections. Clinton Avenue, south side from La Grange Place to Wright Street, and 8 inch cross connections from south to north side mains at Astor and Wright Streets	337	
	and 6 inch cross connections at La Grange Place, Thomas, Murray and Parkhurst Streets	2,189	1,267 39
Sept.	Twelve inch main South 10th St., from dead end to Woodland Avenue	628	1,061 62
	Amount forward		$ 9,398 02

STATEMENT OF STREET MAINS LAID—CONTINUED.

	LOCATION	FEET	COST
	Amount brought forward		$ 9,398 02
Sept. 1895	Twelve inch main 14th Avenue, from Morris Ave. to Hunterdon Street and 6 inch main in Morris Ave., from 14th Ave. south 120 feet	266 148	775 89
Sept.	Six inch main Paterson Street, from Niagara St. to Westcott Street	320	225 48
Sept.	Six inch main Malvern Street, from Jefferson St. to Adams Street	932	888 44
Sept.	Six inch main Delancy Street, from Pacific Street to opp. No. 77	1,117	1,038 21
Sept.	Six inch main Ridge Street, from Elwood Ave. to Fredonia Avenue	713	507 58
Sept.	Twelve inch main Belmont Avenue, from Madison Avenue to south side of Clinton Ave	219	766 21
Sept.	Six inch main Esther St., from former terminus to Euclid Avenue	241	208 67
October	Six inch main Amsterdam Street, from Magazine St. east 150 feet	136	111 93
October	Six inch main Goris Street, from 10th St. to Blum St	404	491 77
October	Six inch main Bruce Street, from Bank Street to Cabinet Street	536	729 65
October	Six inch main South 11th Street, from South Orange Ave. to 14th Ave., and from Central Avenue 375 feet north	840	688 75
	Amount forward		$15,830 60

[illegible] MAINS LAID—CONTINUED.

[illegible]	FEET	COST
[illegible] forward		$15,830 60
[illegible], from 14th to 15th Aves.	658	558 25
[illegible] from Chester Avenue north [illegible]	730	587 85
[illegible], from 13th Avenue to 11th [illegible]	1,654	1,370 26
[illegible] Street, from Ferry Street 195 feet [illegible]	199	156 76
[illegible] inch main. [illegible] Street, extension from Emmet Street [illegible] Wright Street, and connecting same [illegible] Wright Street main east and west	219	905 95
[illegible] main. [illegible] Lane, from Hawkins' Street east [illegible]	895	591 31
[illegible] main. [illegible], from Napoleon St. to Ann St.	222	180 06
[illegible] main. [illegible] Street, from Dawson Street east [illegible] 105 feet	199	152 06
[illegible] inch main. [illegible]son Street, from 5th St. to 6th St.	232	191 80
[illegible] inch main. [illegible] St. from Elizabeth St. to Paterson St.	265	214 38
[illegible] inch main. [illegible] L, from Hamburg Place to Mary Street	512	451 24
[illegible] inch main. [illegible] St. from High St. to Shipman St. and connecting same with Shipman St., both sides	72 256	661 50
Amount forward		$21,853 01

STATEMENT OF STREET MAINS LAID—CONTINUED.

	LOCATION	FEET	COST
	Amount brought forward..................		$21,853 91
Dec. 1895	Six inch main......................... ... Ann Street, from Elm Road to hydrant bet. Elm Road and New York Ave.........	400	289 70
Dec.	Six inch main .... Gotthardt Street, from Elm Road to New York Ave	945	683 54
Dec.	Six inch main .... Fourth Avenue, from Roseville Avenue west 700 feet..	716	683 06
Dec.	Six inch main .... Roseville Avenue, from Newbold St. north about 200 feet...	232	129 05
Dec.	Six inch main .... Second Avenue, from 5th St. to 3d St......	502	241 59
			$23,880 85

REPAIRS OF STREET MAINS.—1895.

January	**—Repaired 6 inch main, New Street, between Halsey Street and Broad Street**	**$**	**10 93**
"	**—Repaired 3 inch branch pipe, Mulberry Street, cor. Oak Street**		**5 92**
"	**—Renewed** stop boxes. **Broad Str**eet opp. New Street **New Stre**et, east of Halsey Street **Ogden St**reet and Clark Street **Clark Stre**et, south of Ogden Street **Ogden St**reet at Clay Street **West Kin**ney Street and West Street **Kearny S**treet, east of Garside Street **Taylor St**reet, west of Summer Ave. **Fourth Av**enue, west of Summer Ave.		**8 10**
February	**—Repaired 4 inch main, Morris Avenue near Seventeenth Ave**		**5 96**
"	**—Repaired 4 inch main, opp. 25 Mechanic Street**		**6 28**
"	**—Repaired 3 inch main, Union Street and Market Street, labor only**		
"	—Repaired 4 inch main, West Park Street		8 56
"	—Repaired 4 inch main, Mechanic Street, east of Mulberry Street		6 62
"	—Renewed stop box, Broad Street and New Street		90
March	—Thawing out 6 inch main in Kinney Street, opp. No. 71		1 50
"	—Recaulked joint on main, Washington Street under Canal Bridge, labor only		
"	—Repaired 4 inch main, Rector Street		3 93
"	—Repaired 4 inch main, Orange Street		9 50
"	—Recaulked joint on main, Ferry Street and Union Street, labor only		
"	—Renewed stop boxes. Mulberry Street, west of Sherman Avenue Mulberry Street, east of Sherman Avenue Mulberry Street, east of Brunswick Street Brunswick Street, east of Astor Street		
	Amount forward	$	68 20

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward	$ 68 20
March	—West Street and Morton Street	
	Brunswick Street, west of Astor Street	
	Sherman Avenue, west of Astor Street	
	Beach Street and Mulberry Street	
	East Kinney Street, east of Mulberry Street	
	Mulberry Street, north of Chestnut Street	
	Oliver Street, east of Mulberry Street	
	Cottage Street, east of Mulberry Street	
	Reservoir Place, east of Boyden Street	
	Clay Street, east of High Street	
	Ogden Street, south of Division Street	
	Bloomfield Avenue, west of Summer Avenue	
	Eighth Ave. and Clifton Ave., meter box F. & C.	
	Opposite Clifton Avenuc Pump House	
	Brunswick Street, west of Thomas Street	
	Wright Street, north of Sherman Avenue	
	Sherman Avenue, east of Wright Street	
	Market St. and Broad St., meter box F. & C.	
	Gray Street, east of Warren Street	
	South Twelfth Street, south of Warren St.	
	Gray Street, south of Orange Street	
	Humboldt Street, south of Orange Street	
	Seventh Street, south of Orange Street	42 50
April	—Repaired 6 inch main, Commercial St., north side of canal, labor only	
"	—Repaired 3 inch main, Market St. opp. No. 208	18 60
"	—Renewed stop box, cor. Mulberry St. and Chestnut Street, labor only	
"	—Packed stop and recaulked joint on main, Warren Street and Colden Street	
'	—Renewed stop box, La Grange Place and Broad St.	90
"	—Renewed wood plug on 3 inch main, Broad Street, near William Street, labor only	
"	—Renewed 4 inch stop in Lawrence Street, at north side of Central Railroad track	16 28
"	—Dug down in 10 in. and 20 in. stops at Pump House Clifton Ave., labor only	
"	—Raised iron stop box, Broad Street opp. No. 776, labor only	
	Amount forward	$ 146 48

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward..................	$ 146 48
April	—Renewed stop box at Boston Street and Bank St. ..	90
"	—Renewed stop and box, south east corner of Pennington Street and Orchard Street.............	18 54
"	—Recaulked joint on 12 inch main, at corner Belmont Avenue and Madison Ave., labor only........	
"	—Recaulked joint at Hamburg Place and Lang Street, renewed stop box...........................	
"	—Renewed stop box, New Jersey Railroad Avenue and Walnut Street..................... ...	90
May	—Renewed stop boxes.	
	South side Orange Street and Clifton Ave.........	
	North side Orange Street and Clifton Ave.........	
	Mt. Prospect Ave. and Fourteenth Ave............	
	Mt. Prospect Ave. and Bloomfield Ave............	
	Kearney Street and Summer Ave.................	
	Gould Avenue and Thirteenth Street.............	
	Gould Avenue and Twelfth Street................	
	Market Street and Washington Street.............	
	Belleville Avenue and Broad Street..............	8 10
"	—Recaulked joint on 24 inch main, River Street, labor only................................	
"	—Renewed 6 inch stop at Fourteenth St. and Orange Street, and Fourteenth Street and Gould Ave..	47 04
"	—Cut off and plugged 3 inch main, Broad Street at Franklin Street, labor only..................	
"	—Recaulked joint on main, Ferry St. and Union St., labor only................................	
"	—Turned down stop 12 inches to stop leak, labor only	
"	—Renewed stop and box, Goble Street and Astor St..	27 24
"	—Dug out wood meter box over 24 inch stop at Broad Street and Market St., built brick vault around the stop. The same at Orange Street and Broad Street...............................	
"	—Renewed stop at New York Avenue and Napoleon Street....................................	26 31
	Amount forward..............	$ 275 51

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward	$ 275 51
May	—Recaulked joint on 12 inch main at Market Street Depot, under tracks, labor only	
"	—Recaulked joints on 24 inch main, River Street bet. Railroad Avenue and Market St., labor only	
"	—Recaulked joints on 24 inch main, James Street bet. Burnet Street and High Street, labor only	
"	—Dug down on reported leak in South Canal Street, labor only	
June	—Renewed stop at High Street and Orange Street	30 50
"	—Packing and repaired 10 inch stop, Clifton Avenue Pump House, labor only	
"	—Dug down on 3 inch stop at High St., near Orange Street, and disconnected the old 3 inch main running up Orange St. to Boyden St.	
"	—Renewed stop in Hamburg Place at Garrison St.	21 79
"	—Renewed stop at Hamburg Place and Barbara St.	17 10
"	—Repaired 4 inch main in Garden St., 100 feet from New Jersey Railroad Ave	5 02
"	—Repaired 4 in. branch pipe, Bloomfield Avenue and Seventh Street, labor only	
"	—Renewed 6 inch stop, Eighteenth Avenue, west of Boyd Street	22 97
"	—Renewed 4 inch stop in Fairview Ave., north side of Eighteenth Ave	17 00
"	—Renewed stop boxes.	
	Howard Street and South Orange Avenue	
	Sixth Avenue and Garside Street	
	Sixth Avenue and Clifton Avenue	
	Orange Street and Warren Street, meter box	
	Eighth Avenue and Broad Street, meter box	
	Broad Street near Orange Street	
	Bloomfield Avenue at Canal Bridge	
	Bloomfield Avenue, between Lake Street and Canal (lowered)	
	Amount forward	$ 389 89

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward.........	$ 389 89
June	—Niagara Street and Elizabeth Street.............. Niagara Street and Darcy Street................. Wickliffe Street and Bank Street................. High Street and Court Street.................... Eighteenth Avenue, west of Magnolia Street...... Magnolia Street and Eighteenth Avenue.......... Hawkins Street and Ferry Street................. Fairview Avenue at Eighteenth Avenue........... Eighteenth Avenue, east of Boyd Street...........	32 60
"	—Renewed stop at Eighteenth Ave., east of Magnolia Street..................................	22 82
July	—Repaired 4 inch main, Seventh Avenue, between Garside Street and Mt. Prospect Avenue......	6 02
"	—Renewed stop boxes. St. Francis Street and George Street ....2 Magnolia Street, east side Eighteenth Ave....... 2 Komorn Street and St. Francis Street............3 Bergen Street, South Clinton Avenue.... ....1 Somerset Street and Montgomery Street, iron box.1 Sixth Street and Orange Street, iron box.........1 Myrtle Avenue and Orange Street, iron box......1 Summer Avenue, North Third Avenue, iron box..1 Summer Avenue, South Third Avenue, iron box .1	39 00
"	—Shutting off and put in new tap, Fifth Avenue, bet. Aqueduct Street and Parker Street............	47
"	—Repaired 4 inch branch pipe to hydrant in Washington Avenue, between Elwood Ave. and Delavan Ave........................	4 68
"	—Recaulked two 30 inch joints and oiled, and put in order 30 inch stop at the Gate House at Low Service Reservoir, labor only	
"	—Repaired 6 inch main, Clinton Avenue and Osborn Terrace....................................	5 72
"	—Renewed 6 inch gate, Summer Avenue, north side Kearny Street............................	20 52
"	—Repaired 4 inch main, Astor Street, 50 feet east of Sherman Avenue..........................	5 61
	Amount forward..................	$ 527 33

REPAIRS OF STREET MAINS—Continued.

	Amount brought forward	$ 527 33
July	—Renewed 6 inch stop and iron box, Summer Avenue and Nursery Street	21 85
"	—Renewed 6 inch stop and iron box, Kearny Street and Summer Avenue	23 35
"	—Renewed stop boxes.	
	Sherman Avenue, south of Miller Street	
	Miller Street, east and west Sherman Ave.	
	Vanderpool Street, east and west Sherman Ave.	
	Poinier Street, west Sherman Avenue	
	Sherman Avenue, west Poinier Street	21 00
August	—Renewed stop boxes	
	Somerset Street and Montgomery Street	
	Somerset Street and Waverly Place	
	La Grange Place and Brunswick Street	
	Eighteenth Avenue and Hunterdon Street	
	Eighteenth Avenue and Bergen Street	
	Somerset Street and Montgomery Street	
	Somerset Street and Waverly Place	
	Somerset Street and Rose Street	
	Somerset Street and Clinton Avenue	
	Orange Street and Sheffield Street	
	Orange Street and Norfolk Street	
	Nursery Street and Summer Avenue	
	Vanderpool Street and Wright Street	
	Eighteenth Avenue and Winans Avenue	
	Orange Street and Canal Bridge	
	North Seventh Street, bet. Sixth and Seventh Aves.	
	Orange Street and Fourth Street, meter box, frame and cover	
	Seventh Avenue and Seventh Street	
	Eighth Avenue and Factory Street	
	Eighth Avenue and Factory Street, west side	
	North Seventh Street, Fourth and Fifth Aves	
	Astor Street and Summer Avenue	
	Eighteenth Avenue and Boyd Street	
	Fifteenth Avenue and Littleton Avenue	
	Fourteenth Avenue and Littleton Avenue.	
	Parker Street and Bloomfield Avenue	94 00
"	—Repaired 4 inch main, Astor Street and Pennsylvania Avenue	4 77
"	—Recaulked joint 16 inch main, Orange Street and Eighth Avenue, labor only	
	Amount forward	$ 692 30

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward	$ 692 30
August	—Put in 2 inch stem in patent stop for 2 inch service, St. Luke's Church, new stem	2 00
"	—Repaired 4 inch main, Division Street	4 30
"	—Repaired 4 inch main, Division Street	4 71
"	—Renewed 6 inch stop at Frelinghuysen Avenue and Wright Street	21 06
September	—Packed stop at Somerset Street and Spruce Street, labor only	
"	—Repaired 4 inch main, Camp St., near Broad St.	5 77
"	—Renewed 6 inch stop, Vesey Street and Pacific St.	21 33
"	—Packed 12 inch stop, Broad Street and Market St., labor only	
"	—Packed 6 inch stop, Mulberry St. and Pennington Street, labor only	
"	—Renewed 6 inch stop, Johnson Avenue and Clinton Avenue	21 20
"	—Recaulked joint 10 inch main, Clifton Avenue, bet. Third Avenue and Bloomfield Ave., labor only.	
"	—Repaired 4 inch main, Camp St., near Broad St.	5 45
"	—Renewed stop boxes.	
	Bleecker Street and Washington Street	
	Warren Street and Washington Street	
	First Street and Orange Street	
	Second Street and Orange Street	
	Washington Street and Plum Street	
	North Seventh Street and Orange Street	
	Elm Street and Lang Street	
	Lang Street and Hamburg Place	
	Lang Street and Walnut Street	
	Broad Street and Market Street	
	Hudson Street and Orange Street, on Orange St.	
	Duryee Street and Orange Street	
	Thirteenth Avenue and South Seventh Street	
	Orange Street and Newark Street	
	Orange Street and Hudson Street	
	Amount forward	$ 778 12

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward	$ 778 12
September	—La Grange Place and Clinton Avenue	
	Stratford Place and Clinton Avenue	
	North Seventh Street, near Fourth Avenue	
	Milford Avenue and Clinton Avenue	
	Johnson Avenue and Bigelow Street	63 00
"	—Renewed stop boxes.	
	Orange Street and North Eleventh Street	
	Littleton Avenue and Thirteenth Avenue	
	South Tenth Street and Orange Street	
	Hunterdon Street and Orange Street	15 00
October	—Renewed stop boxes.	
	Orange Street and Twelfth Street	
	Orange Street and Thirteenth Street	
	Orange Street and Myrtle Avenue	
	Orange Street and Roseville Avenue	
	Blum Street and Springfield Avenue	
	Camden Street and South Orange Avenue	
	Littleton Avenue and Bank Street	
	Bruce Street and South Orange Avenue, north and south side	
	Wallace Street and Bank Street	
	Bruen Street and Fourteenth Avenue	
	Bruen Street and Fifteenth Avenue	
	Garside Street and Third Avenue	
	Garside Street and Second Avenue	
	Milford Avenue and Clinton Avenue	
	Johnson Avenue and Bigelow Street	
	Clinton Avenue and Astor Street	
	Clinton Avenue and High Street	
	Ninth Avenue and South Tenth Street	
	Central Avenue and South Tenth Street	
	Warren Street and South Tenth Street	
	Bruce Street and Warren Street	
	Bruce Street and Thirteenth Avenne	
	Warren Place and Academy Street	
	Cabinet Street and Bruce Street	
	Springfield Avenue and Bruce Street	
	Clinton Avenue and Ridgewood Avenue	
	Clinton Avenue and Badger Avenue	
	Clinton Avenue and Jelliff Avenue	
	Clinton Avenue and Peshine Avenue	
	Rutger Street and Bank Street	
	Clinton Avenue and Chadwick Ave	
	Clinton Avenue and Bergen Street	
	Ninth Street and Thirteenth Avenue	
	South Eighth Street and Thirteenth Avenue	
	Amount forward	$ 856 12

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward	$ 856 12
October	—Polk Street and Lafayette Street. Van Buren Street and Lafayette Street. Merchant Street and Lafayette Street. Avon Avenue and Clinton Avenue.	147 00
“	—Renewed stop boxes. Eleventh Avenue and Littleton Avenue. Cabinet Street and Littleton Avenue. Warren Street and Littleton Avenue. Fairmount Avenue and Cabinet Street. Fairmount Avenue and Thirteenth Avenue. Clinton Avenue and Bergen Street, west side. Market Street, opposite Washington St. Ashbridge Street at Celluloid Works. Bleecker Street and Washington Street. Fifth Avenue and Roseville Avenue. Orchard Street and Scott Street. Fifth Avenue and Roseville Avenue Roseville Avenue and Fifth Avenue Roseville Avenue and Fifth Avenue Sixth Avenue and Roseville Avenue. Orange Street west, south North Seventh Street. North Seventh Street west, south Orange Street. Sussex Avenue and Roseville Avenue, N. & S. side. Orange Street and Roseville Avenue, S. S. side. Lake Street and Bloomfield Ave. Bloomfield Avenue and Clifton Avenue Clifton Avenue, bet. Fifth Avenue and Bloomfield Avenue Bloomfield Avenue and Aqueduct Street Adams Street and Lafayette Street. Jefferson Street and Lafayette Street. High Street and Orange Street. Elm Street and McWhorter Street. Market Street and Congress Street. Ferry Street and Congress Street. Elm Street and Prospect Street. Lafayette Street and Prospect Street. Ferry Street and Prospect Street. Central Avenue and Broad Street. West Park Street and Broad Street Congress Street and Lafayette Street. Monroe Street and Lafayette Street. Fulton Street and Front Street.	139 00
“	—Repaired 4 inch main on Spring Street, between the north and south track of Morris & Essex Railroad Avenue.	7 36
	Amount forward	$1,149 48

REPAIRS OF STREET MAINS—Continued.

	Amount brought forward	$1,149 48
October	—Repaired 8 inch main, Market Street, bet. Washington Street and Market Street	28 10
"	—Packed 8 inch stop at Market Street and Washington Street, and renewed box	3 00
"	—Renewed 4 inch stop, Market Street and Plane St.	15 67
"	—Packed 4 inch stop at Jail, Newark Street	
"	—Renewed 4 inch stop, Humboldt Street and Warren Street	15 66
"	—Recaulked joints. Oliver Street, east of New Jersey Railroad Avenue Clifford Street at Coopers Union Street, opp. No. 50 Broad Street, opp. No. 1154 Monroe Street and Lafayette Street	
"	—Renewed 6 inch stop, Warren Street and Roseville Avenue	36 48
"	—Renewed 6 inch stop, Warren Street and South Tenth Street	20 95
"	—Repaired break, High Street and Orange Place	
"	—Renewed stop boxes. Congress Street and Elm Street Congress Street and Lafayette Street	20 37
November	—Repaired 6 inch main, Arlington St., near Springfield Avenue	6 06
"	—Repaired 4 inch main, Nichols Street and William Street	15 34
"	—Repaired 4 inch main, West Park St., near Halsey Street	3 66
"	Caulked joint 12 inch main, Market Street, at Depot, labor only	
"	—Packed stop, Dock Street, labor only	
	Amount forward	$1,314 77

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward	$1,314 77
November	—Renewed stop boxes.	
	North Eleventh Street and Orange Street	
	South Tenth Street and Fourteenth Street	
	Ridge Street and Bloomfield Avenue	
	Shipman Street and Springfield Ave., also packed and stop	
	New Jersey Railroad Avenue and Lafayette Street, also packed and stop	
	Union Street and Lafayette Street	
	New Street and Halsey Street	
	Johnson Avenue and Alpine Street	
	Lister Avenue and Chapel Street	
	Lister Avenue and Joseph Street, also packed and stop	
	Lister Avenue and Railroad Crossing, also packed and stop	
	Joseph Street and Lister Avenue, also packed and stop	
	Chapel Street, near Lister Avenue, also packed and stop	
	Boyd Street and Springfield Avenue	
	Prince Street and West Kinney St., also packed and stop	
	Lawrence Street and Market Street	
	At depot, Market Street	
	Warwick Street and Adams Street	
	Halleck Street and Washington Ave	
	Washington Avenue and Verona Avenue	
	Campbell Street and Washington Street	
	Sanford Street and Washington Street	
	Clifton Avenue, opposite Pump House	
	Alpine Street and Johnson Avenue	
	Hunterdon Street and Clinton Avenue	
	McWhorter Street and Green Street	
	Chadwick Avenue and Clinton Avenue	
	Washington Street and Market Street	
	Washington Street and William Street	97 00
December	—Renewed 6 inch stops, Washington St. and Market Street; and Washington Street and William St., labor and material	37 92
"	—Repaired 3 inch main opp. 22 Bridge Street	5 55
"	—Halsey Street, near Market Street, dug down and plugged 3 inch pipe, labor only	
"	—Repaired joint on 6 inch main, Broad St., labor only	
	Amount forward	$1,455 24

REPAIRS OF STREET MAINS—CONTINUED.

	Amount brought forward	$1,455 24
December	—Repaired 4 inch main, Camp Street, bet. Orchard Street and Broad Street	4 02
"	—Renewed 6 inch stop, Houston St. and Elm Road	20 67
"	—Repaired 3 inch main, Market St., near Beaver St.	6 83
"	—Recaulked joint on main under the Madison Street Bridge, labor only	
"	– Repaired 4 inch stop, Livingston Street and Rose Street	17 02
"	—Packed stop at Livingston Street and Rose Street, labor only	
"	—Renewed stop at Waverly Place and Charlton St., new stem	21 12
"	—Renewed 2 inch stem in patent stop at Spring Street and Orange Street	3 00
"	--Renewed 6 inch stops. Prince Street and Montgomery Street Prince Street and Spruce Street	32 77
"	--Recaulked joint 12 inch main, opposite Alling St., labor only	
"	—Renewed stop boxes. Broome Street and Morton Street Verona Avenue and Mt. Prospect Avenue Bowery Street and Freeman Street Plum Street and Plane Street Charlton Street and Spruce Street Broad Street, opposite Cedar Street Market Street and Broad Street Avenue A and Wright Street	24 00
"	—Mason work and supplies	147 35
	Oil	7 08
	Lumber	38 27
	Tan Bark	5 22
	Repaving	50 03
	Plumbing	7 50
	Sundry Expense, petty cash	21 20
	Labor and cartage for year 1895	2,074 37
	Total amount charged to repair during the year	$3,935 69

STATEMENT OF PIPES LAID IN 1895.

Month	LOCATION OF PIPE	Length in Lineal Feet						Stops	Hyd.
		20 in.	12 in.	10 in.	8 in.	6 in.	4 in.		
January	Carlisle Place, from Ogden to Passaic Streets, and								
	Passaic Street, from Carlisle Place about 200 ft. north					446		2	2
	Ridge Street, from Montclair Avenue, south					412		1	1
April	Lake Street, from Grafton to Montclair Ave.					933		3	1
	Highland Ave., from Verona to Montclair R. R.					364		1	1
	Hunter Street, from Sherman Ave., west					174		1	1
May	Goble Street, from Emmet to Astor Street					277		2	
	6th Avenue, from N. 13th Street to city line					232		1	1
	New York Avenue, from Houston to Napoleon St.					217		2	
	Bigelow Street, from Johnson to Hillside Ave.					295		1	1
	East Fair Street					303		2	1
June	14th Avenue, from Bruce to Morris Ave.		312					3	
	Lockwood Street, from Lister Ave., south					111		1	
	Garrison Street, from Hamburg Place to Elm Road					1,822		4	4
	Schalk Street, from Passaic Ave to Ferry Street					886		4	2
	18th Avenue, from Lillie to Fairview Ave.					268		1	
July	18th Avenue, from Hunterdon to Magnolia St.					527		2	
	First Avenue, from Third to Fourth St.					220		1	1
	S. 20th Street, from S. Orange to 12th Ave.					1,435		3	4
	S. 15th Street, from 9th Avenue to city line					411			1
	Orange Street, at 2d, 6th and 7th St. connections					190		1	
	Summer Avenue and Eighth Avenue connection					47		2	
	Vincent Street, from dead end, south					48			
	May Street, across Summer Avenue					58		1	
August	Clinton Avenue, from La Grange Place to Wright St. Including 8 inch cross conn. at Astor and Wright Sts.				445	2,189		11	4
September	14th Avenue across Littleton Avenue		113			48		2	

STATEMENT OF PIPES LAID IN 1895 – CONTINUED.

Month	LOCATION OF PIPE	Length in Lineal Feet						Stops	Hyd.
		20 in.	12 in.	10 in	8 in.	6 in.	4 in.		
September	Esther Street, from Euclid Ave., north					241		1	
	S. Tenth Street, from Kent Street to Woodland Ave		628					1	1
	14th Avenue, from Morris Ave. to Hunterdon St.		256					2	
	also Morris Avenue, south of 14th Ave.					148			
	Paterson Street, from Niagara to Westcott Street					320		2	
	Malvern Street, from Jefferson to Adams Street					932		3	2
	Alpine Street, across Johnson Avenue					73		1	
	Delancy Street, from Pacific to east of Jefferson St.					1,117		3	2
	Belmont Avenue, from Clinton to Madison Ave.		219			68		3	1
	also connecting Madison and Clinton Aves.					61			
	Ridge Street, from Elwood to Fredonia Ave.					713		2	1
October	S. 11th Street, from Central Ave., north					376		1	1
	Amsterdam Street, from Magazine Street, east					136		1	
	Goris Street, from Blum to S. 10th St.					404		2	1
	Bruce Street, from Bank to Cabinet St.					536		2	2
	Sanford Street, across Lafayette Street					48			
	11th Avenue, across Littleton Avenue					48			
	Cabinet Street, across Littleton Avenue					27			
	S. 11th Street, from S. Orange to 14th Ave					464		1	1
	4th Avenue, across Roseville Avenue					72			
	7th Avenue, across Roseville Avenue					24			
	S. 15th Street, from 14th to 15th Ave.					668		2	1
	Peabody Place, from Chester to Delavan Ave.					730		1	2
	14th Avenue, connection with S. 19th Street					40		1	
	S. 19th Street, from 13th to 11th Ave.					1,654		4	4
	Cortlandt Street, from Ferry Street, south					199		1	1

STATEMENT OF PIPES LAID IN 1895—CONTINUED.

Month	LOCATION OF PIPE	Length in Lineal Feet						Stops	Hyd.
		20 in.	12 in.	10 in.	8 in.	6 in.	4 in		
November	Broad Street, from Emmet to Wright Street................	219	.....	....	70	10	.....	.. ..	....
	Plum Point Lane, from Hawkins Street, east.	.....	......	....	.....	895	.....	1	1
	Elm Road, from Napoleon to Ann Street....................	.....	......	....	.....	222	.....	1	1
	Thomas Street, from Dawson Street, east..................	.....	......	....	.....	199	.....	1	1
	Dickerson Street, from 5th to 6th Street..................	.....	......	....	.....	232	.....	1	1
	Wall Street, from Elizabeth to Paterson St................	.....	......	....	.....	265	.....	1	...
	Avenue L, from Hamburg Place to Mary Street	.....	......	....	.....	512	.....	1	2
	William Street, from High to Shipman Street...	.. ..	......	. . .	296	....	.....	1	1
December	Ann Street, from Elm Road about 400 feet east	.....	......	....	.....	400	....	1	....
	Gotthardt Street, from N. Y. Ave. to Elm Road............	.....	......	....	.....	945	.....	3	1
	4th Avenue, from Roseville Avenue to N. 11th St..........	.....	......	....	.....	716	.....	2	1
	Roseville Avenue, from Newbold Street, north.............	.....	......	....	.....	232	.....	1	1
	2nd Avenue, from 5th to 3d Street............................	.....	......	....	.....	502	.....	1	2
		219	1,528		811	26,142		101	57

During the past year 28,700 lineal feet of pipe have been laid in the city, of which

219 lineal feet of 20 inch diameter,
1,528 " " " 12 " "
811 " " " 8 " "
26,142 " " " 6 " "

} $5\frac{2300}{5280}$ miles.

STATEMENT OF PIPES RELAID IN 1895.

Month	LOCATION OF PIPE	Length in Lineal Feet. 12 in.	10 in.	8 in.	6 in.	4 in.	Stops	Hyd.
February	Walnut Street, from Mulberry Street, east					217	1	
March	Chestnut Street, from Mulberry to Broad St.				970		6	1
April	Clinton Avenue, from Broad to Halsey St.				324		1	
	Hamilton Street, from N. J. R. R. Ave. to Mulberry St.			81	1,000		6	3
	Pennington Street, from Broad to Orchard St.				500		3	
	Orchard Street, from Walnut to E. Kinney St.				772		4	1
June	Orange Street, from High to Boyden St.		114		506		3	1
July	Sherman Avenue, from Parkhurst to Astor St. including connection in Wright Street.				1,002		11	2
	Clinton Avenue, from Halsey to Spruce Street				311		2	1
	Clinton Avenue, east side of Washington to High St.				1,231		3	2
	Washington Street, from Clinton Ave. to Spruce St.				277		1	
August	Garside Street, from 4th Ave. to Kearny St.				323		2	
September	Bleecker Street, across Washington Street				103		1	
	Warren Street, across Washington Street				39			
	Clinton Avenue, north side, from Astor to Wright St.				780		3	
	New Street, across Washington Street			90			2	
	Wright Street, from Broad Street to Clinton Ave.			2,024			3	4
	including 6 inch cross connections				188			
	Academy Street, from High to Norfolk Street inc. cross conn. at Wickliffe, Wilsey and Norfolk Sts.				2,354		7	3
	Mulberry Street, from Green to Pennington St. including cross connections of side streets			2,769	469		11	9
	Lafayette Street, from N. J. R. R. Ave. to Union St. including cross connections at side streets			71	854		4	1
	Astor Street, from Pennsylvania R. R. to Clinton Ave. including cross connections at side streets				1,120		4	3

STATEMENT OF PIPES RELAID IN 1895—CONTINUED.

Month	LOCATION OF PIPE	Length in Lineal Feet.					Stops	Hyd.
		12 in.	10 in.	8 in.	6 in.	4 in.		
October	Academy Street, from Norfolk St. to Wallace Place				352		1	1
	Oliver Street, from Mulberry Street to N. J. R. R. Ave.				356		2	
	Washington Street, from Academy to Market St. also cross connection at Bank Street			112	635		5	1
November	Morris & Essex R. R. Ave., from High Street, east				641		1	1
	Shipman Street, across William Street				83		2	
	Shipman Street, across Springfield Ave.				103		2	1
	Division Street, from Broad to Spring Street. Spring Street, from Division to Cross Street Cross Street, from Spring Street, west				1,105		4	3
December	Columbia Street, from Elm to Hamilton Street. Green Street, from Columbia to Mulberry Street			1,081	486		4	2
	Lawrence Street, from Hamilton to Mechanic Street			302			2	1
	Clark Street, from Belleville Ave. to Passaic Ave.			1,148			6	3
	Green Street, from Columbia to N. J. R. R. Ave.			315			2	1
	Liberty Street, from Green to Hamilton Street				656		2	1
			114	7,993	17,540	217	101	46

During the past year 25,864 lineal feet = $4\frac{4744}{5280}$ miles of pipe have been relaid in the city, of which

114 lineal feet of 10 inch diameter,
7,993 " " " 8 " "
17,540 " " " 6 " "
217 " " " 4 " "

STATEMENT OF PIPE LOWERED IN 1895.

Month	LOCATION OF PIPE	Length in Lin. Ft.	
		6 in.	4 in.
July	Sherman Ave., from Astor to Poinier St., inc. side streets, Emmet, Miller and Vanderpool Sts.	1,830	
August	Summer Avenue, from Arlington Avenue, south	400	
	Summer Avenue, from Second Avenue, north	600	
	Summer Avenue, from Third Avenue to Taylor Street	300	
	Walnut Street, from Sanford to Lang Street	800	
	Littleton Avenue, from 100 feet north of 15th Avenue to 14th Avenue	400	
	McWhorter Street, from Ferry to Elm Street	1,570	
September	Rutger Street, from South Orange to 13th Avenue	600	
	Johnson Avenue, from Bigelow Street, north	200	
October	Littleton Avenue, from 100 feet north of 13th Avenue to Warren Street	2,040	
	Bruce Street, from Springfield Avenue, to middle of block bet. 14th and S. Orange Ave	800	
	Jefferson Street, from Lafayette to Market St.	1,550	
	Prospect Street, between Ferry and Lafayette Street	150	
	Lafayette Street, from Madison Street to Hamburg Place	2,380	
	Emmet Street, from Pennsylvania to Sherman Avenue	300	
	Roseville Avenue, from Sussex Avenue to Warren Street	830	
	14th Avenue, from South 18th to South 19th Street	230	
	14th Avenue, from S. 9th to S. 10th Street; S. 9th Street, from 14th Ave., south		530
	Boyd Street, from 17th Avenue to Waverly Place	1,200	
	Clinton Ave. from Johnson Ave. W., Clinton Ave. from Belmont to Badger Ave., Clinton Ave. from Jelliff Ave. to Hunterdon St.	1,300	
	Madison Avenue across Belmont Avenue	65	
November	South 18th Street, from 18th Avenue, north	200	
		17,745	530

During the past year 18,275 lineal feet of pipe have been lowered, of which
17,745 lineal feet of 6 inch diameter, } $3\frac{2435}{5280}$ miles.
530 " " " 4 " "

PIPE LAID, RELAID AND LOWERED. Year Ended Dec. 31st, 1895.

PIPES	Length in Lineal Feet						Total	Valves	Hydrants
	20 in.	12 in.	10 in.	8 in.	6 in.	4 in.			
Pipe LAID, (extensions).....	219	1,528	....	811	26,142	....	28,700	101	92
Pipe RELAID, substitution of large for small pipe, and replacing old horizontal cast pipe	....	....	114	7,993	17,540	217	25,864	111	128
Pipe LOWERED, account of freezing..	... .	....	....	....	17,745	530	18,275	....	....
Miscellaneous, (valves on hydrants, substitution for old broken valves.....	....	....	....	....	....	....	....	251	....
Total......	219	1,528	114	8,804	61,427	747	72,839	463	220

Total Pipe LAID, RELAID and LOWERED during the year, 72,839 feet = $13\frac{4199}{5280}$ miles.

Total mileage of Pipe connected with the works at the year ended, 1895, = 227 [illegible] miles.

Hydrant Statement.

For the Year Ended December 31, 1895.

As a continuation to the list of Hydrants of 1883 to 1894.

LOW SERVICE.

Month	No.		Pressure lbs.
Jan.	1.	N. E. corner Carlisle Place and Ogden St.	53
	2.	N. W. corner Passaic St. and Carlisle Place	50
April.	3.	N. W. corner Hamilton St. and N. J. R. R. Ave.	37
	4.	N. W. corner Hamilton and Ward Sts.	36
	5.	S. E. corner Hamilton and Mulberry Sts.	36
	6.	Hunter Street, n. s., 100 ft. w. of Sherman Ave.	38
	7.	Commercial Street, w. s., at the Morris Canal	35
May.	8.	N. E. corner E. Fair and Liberty Sts.	32
June.	9.	N. W. corner Orange St. and Reservoir Place	25
	10.	Centre Market Place	29
	11.	Centre Market Place	27
	12.	Centre Market Place	27
	13.	Garrison St., n. s., bet. Hamburg Place and N. Y. Ave.	31
	14.	N. Y. Avenue, e. s., opp. n. s. Garrison St.	37
	15.	Garrison St., n. s., bet. N. Y. Ave. and Elm Road	36

HYDRANT STATEMENT—CONTINUED.

Month	No.		Pressure lbs.
June.	16.	N. E. corner Garrison St. and Elm Road	40
	17.	S. W. corner Schalk St. and Passaic Ave	36
	18.	N. W. corner Schalk and Ferry Streets	31
July.	19.	N. W. corner Sherman Ave. and Parkhurst St	35
	20.	Summer Avenue, w. s., bet. May St. and Chester Ave	35
	21.	S. W. corner Clinton Ave. and La Grange Place	30
	22.	S. E. corner Clinton Ave. and Parkhurst St	26
	23.	S. E. corner Clinton Ave. and Murray St	25
Aug.	24.	S. E. corner Wright St. and Clinton Ave	22
Sept.	25.	Mulberry Street, e. s. bet. Green and Franklin Sts	35
	26.	N. E. corner Mulberry and Cottage Streets	33
	27.	N. E. corner Mulberry St. and Mulberry Place	35
	28.	N. E. corner Mulberry and Oliver Streets	32
	29.	Mulberry Street, e. s., opp. n. s. of Camp St	37
	30.	N. E. corner Malvern and Jefferson Streets	40
	31.	Malvern St., n. s., middle of block bet. Jefferson and Adams Streets	39
	32.	N. E. corner Delancy and Pacific Streets.	39
	33.	Delancy St., n. s., about 400 feet east of Jefferson St	41
	34.	S. W. corner Astor St. and Clinton Ave	21
Oct.	35.	Lafayette Street, middle of block bet. Hamburg Place and Merchant St	38
	36.	Peabody Place, w. s , 400 feet north of Chester Ave	35
	37.	S. W. corner Peabody Place and Delavan Ave	35
	38.	Cortland St., w. s., 200 feet south of Ferry St	27
Nov.	39.	Plum Point Lane, n. s., 875 feet east of Hawkins St	30
	40.	S. E. corner Elm Road and Napoleon St	36
	41.	Thomas Street, n. s., 150 feet east of Dawson St	40
	42.	M. & E. R. R. Ave., s. s., bet. High and Plane Sts	35
	43.	N. W. corner Avenue L. and Margaretta St	40
	44.	S. W. corner Avenue L. and Mary St	40
	45.	Division Street, n. s., middle of block bet. Broad and Spring Streets	32
	46.	Cross Street, n. s., about 200 feet west of Spring St	35
Dec.	47.	S. E. corner Lawrence and Mechanic Sts. (6 in.)	28
	48.	Liberty Street, w. s., about 50 feet south of E. Fair St	31
	49.	Gotthart St., n. s., middle of block bet. N. Y. Ave. and Elm Road	35
	50.	S. W. corner Clark and Broad Streets (6 in.)	40
	51.	S. E corner Clark St. and Mt. Pleasant Ave. (6 in.)	42
Dec.	52.	S. E. corner Clark and Ogden Streets (6 in.)	45
	53.	Broad St., e. s., about 100 feet north of New St. (6 in.)	29

HYDRANT STATEMENT—CONTINUED.

HIGH SERVICE.

Month	No.		Pressure lbs.
Jan.	54.	Ridge Street, west side, 400 ft. south of Montclair Ave.....	30
April.	55.	Lake Street, w. s., middle of block, bet. Montclair Avenue and Grafton Avenue..............................	35
	56.	Highland Avenue, west side, at Montclair R. R...... ...	50
May.	57.	Central Avenue, south side, opp. Duryee St. (6 in.)........	60
	58.	6th Avenue, north side, at the city line..................	35
	59.	N. E. corner Bigelow Street and Hillside Ave............	42
July.	60.	N. E. corner 1st Avenue and Fourth Street...............	48
	61.	S. 20th Street, w. s., middle of block, bet. S. Orange Ave. and 13th Ave......................................	32
	62.	S. W. corner S. 20th St. and 13th Ave..................	32
	63.	S. 20th Street, w. s., middle of block, bet. 13th and 12th Avenues..	30
	64.	S. W. corner S. 20th St. and 12th Ave..................	32
	65.	S. 15th Street, w. s., north of 9th Ave. (at the city line)....	30
Aug.	66.	Roseville Ave., w. s., bet. Orange St. and M. & E. R. R..	32
Sept.	67.	N. W. corner S. 10th Street and Woodland Ave...........	32
	68.	Bruce St., w. s., middle of block, bet. 14th and 15th Aves.	50
	69.	Rutgers Street, w. s., middle of block, bet. 13th Ave. and Bank Street....................................	47
	70.	N. W. corner Belmont Ave. and Clinton Ave............	45
	71.	Ridge Street, w. s., middle of block, between Elwood and Fredonia Aves..............................	37
Oct.	72.	N. W. corner S. 11th St. and Central Ave...........	40
	73.	Goris Street, north side, middle of block, bet. Blum and S. 10th Streets..................................	30
	74.	Bruce Street, west side, middle of block, between Bank and Cabinet Streets..................................	42
	75.	Low Service Reservoir (7th Ave.)...............	45
	76.	N. W. corner S. 11th St. and 14th Ave.	37
	77.	S. 15th Street, w. s., middle of block, between 14th and 15th Aves	25
	78.	Norfolk Street, east side, opp. Bond Street................	45
	79	S. 19th Street, west side, middle of block, between 12th and 13th Avenues..................................	32
	80.	S. W. corner S. 19th St. and 12th Avenue................	32
Oct.	81.	S. 19th Street, west side, middle of block, between 11th and 12th Aves..	32
	82.	S. W. corner S. 19th Street and 12th Ave...............	32

HYDRANT STATEMENT—CONTINUED.

Month	No.		Pressure lbs.
Nov.	83.	N. W. corner Dickerson and 5th Streets	60
	84.	High Street, w. s , bet. Springfield Ave. and William St.	37
	85.	N. E. corner High Street and 13th Ave	27
	86.	S. W. corner William and Shipman Sts. (6 in)	47
	87.	S. E. corner of Springfield Ave. and Shipman St. (6 in.)	57
	88.	S. E. corner of Shipman and Augusta Sts	51
Dec.	89.	N. E. corner 4th Ave. and N. 11th St	38
	90.	Roseville Avenue, w. s., 200 ft. north of Newbold St.	40
	91.	N. W. corner 2nd Ave. and 4th St	50
	92.	N. W. corner 2nd Ave. and 5th St	50

Hydrants Replaced during the Year 1895.

LOW SERVICE.

Month	No.		Pressure. lbs.
Jan.	1.	N. W. corner Broad and Bank Sts	29
Feb.	2.	Broad Street, east side, opp. Newark and New York Depot.	30
	3.	N. W. corner Frederick and Ferry Sts	36
March.	4.	Frederick St., w. s., m. of bl., bet. Ferry and Market Sts.	36
	5.	N. W. corner Monroe and Lafayette Sts	35
	6.	N. W. corner Chestnut and Orchard Sts	33
April.	7.	S. E. corner N. Y. Ave. and McWhorter St	40
	8.	Broad St. e. s , m. of bl., bet. E. Kinney and Chestnut Sts.	32
	9.	S. W. corner Orchard and Walnut Sts	35
May.	10.	S. W. corner Penn. Ave. and Thomas St	34
	11.	N. W. corner Summer Ave. and Crane St	30
	12.	Arch St. west side, bet. Warren and New Sts	40
	13.	Plane St., e. s., bet James and Orange Sts	32
June.	14.	N. W. corner Front and Centre Sts	35
	15.	N. E. corner Ferry and Merchant Sts.	39
	16.	S. E. corner Orchard and East Kinney Sts	35
	17.	N. W. corner Elizabeth and Wall Sts	35
	18.	N. W. corner Houston St. and N. Y. Ave	35
	19.	N. W. corner Pennington and Dawson Sts.	40
July.	20.	N. W. corner Mulberry and Thomas Sts	35
	21.	N. W. corner 6th Ave. and Stone St	60
	22.	N. E. corner Sherman Ave. and Astor St	30
	23.	S. W. corner Sherman Ave. and Wright St	31

HYDRANT STATEMENT—CONTINUED.

Month.	No.		Pressure lbs.
July.	24.	Sherman Ave., north side, opp. Emmet St	30
	25.	N. E. corner Miller St. and Sherman Avenue	36
	26.	N. W. corner Vanderpool St. and Sherman Ave	36
	27.	N. W. corner Sherman Ave. and Poinier St	39
	28.	N. W. corner Clinton Ave. and Halsey St	32
	29.	N. E. corner Clinton Ave. and Washington St	60
Aug.	30.	S. E. corner Market and Plane Sts	30
	31.	N. W. corner Washington St. and Verona Avenue	50
	32.	Summer Avenue, west side, bet. Nursery St. and 2d Ave	35
	33.	Summer Ave., w. s., bet. Arlington Ave., and Nursery St.	35
	34.	Summer Ave., west side, opp. May St	35
	35.	Summer Ave., w. s., between May St. and Chester Ave	35
	36.	Summer Ave., w. s., bet. 2nd Ave. and Van Wagenen St	33
	37.	N. W. corner Wright and Broad Sts	35
	38.	N. E. cor. Wright St. and Frelinghuysen Ave	33
	39.	N. E. corner Wright and Brunswick Sts	28
Sept.	40.	Mulberry St., east side, opp. south side Franklin St	35
	41.	N. E. corner Mulberry and Walnut Sts	35
	42.	Mulberry Street, east side, bet. Camp and Pennington Sts	37
	43.	Mulberry Street, east side, at north side of Pennington St	37
	44.	N. E. corner Lafayette St. and N. J. R. R. Ave	40
	45.	N. E. corner Kearney St. and Summer Ave	27
	46.	4th Ave., north side, west side of Erie R. R	50
	47.	N. W. corner Brunswick and Astor Sts	27
	48.	N. W. corner Astor St. and Pennysylvania Ave	33
Oct.	49.	N. W. corner Beach and Mulberry Sts	33
	50.	N. W. corner Lafayette and Polk Sts	37
	51.	N. E. corner Lafayette and Madison Sts	33
	52.	N. E. corner Lafayette St. and Hamburg Place	36
	53.	N. E. corner Lafayette and Merchants Sts	39
	54.	S. E. corner Washington and Bank Sts	30
	55.	N. W. corner Green and Mulberry Sts	32
	56.	N. W. corner of Lombardy and Atlantic Sts	32
	57.	S. W. corner Congress and Lafayette Sts	30
Nov.	58.	N. E. corner Broad and Chestnut Sts	32
	59.	N. W. corner Division and Spring Sts	32
	60.	N. E. corner High and Bleecker Sts	31
Dec.	61.	N. W. corner Frelinghuysen Ave. and Poinier St	40
	62.	Broad Street, west side in front No. 1 Engine House (6 in.)	32
	63.	N. W. corner Green and Columbia Sts	30
	64.	N. W. corner Columbia and Elm Sts	33

HYDRANT STATEMENT—CONTINUED.

Month.	No.		Pressure lbs.
Dec.	65.	N. E. corner Green and Liberty Sts. (6 in.)	32
	66.	N. W. corner Avenue A and Wright St.	39
	67.	S. E. corner Bowery and Freeman Sts.	28
	68.	S. W. corner Christie and Bowery Sts.	28
	69.	N. W. corner Orange and Spring Sts.	31

HIGH SERVICE.

Month.	No.		Pressure lbs.
Feb.	70.	N. E. corner West Kinney and Lewis Sts.	59
	71.	S. W. corner West and Court Sts.	35
March.	72.	S. W. corner 13th Ave. and Norfolk St.	40
	73.	S. E. corner Springfield Ave. and Boyd Street.	36
	74.	N. W. corner Montgomery and Prince Sts.	35
April.	75.	N. W. corner Camden St. and 13th Ave.	35
	76.	Beacon St., west side, middle of block, between S. Orange and Springfield Aves.	39
May.	77.	Prince St., west side, middle of block, between S. Orange and Springfield Aves.	41
	78.	S. W. corner S. 14th and Orange Sts.	58
	79.	Springfield Avenue, south side, opp. Camden St.	38
	80.	S. W. corner Morris Ave. and Bank St.	46
	81.	S. W. corner Morris Ave. and 15th Ave.	46
June.	82.	N. W. corner Bank and High Sts.	29
July.	83.	N. W. corner Warren St. and Central Ave.	50
	84.	Clinton Avenue, north side, opp. east side Parkhurst St.	26
Aug.	85.	Mt. Prospect Ave., west side, north of Mt. Prospect Place.	37
	86.	N. W. corner 18th Ave. and Livingston St.	37
	87.	S. E. corner N. 7th St. and 7th Ave.	35
	88.	N. W. corner Summer and 4th Aves.	32
	89.	S. W. corner Somerset and Rose Sts.	54
	90.	N. W. corner Spruce and Somerset Sts.	32
	91.	N. W. corner Livingston St. and Waverly Place.	41
	92.	N. W. corner Clinton Ave. and High St.	60
	93.	N. 7th St. east side, middle of block, between 7th and 6th Avenues.	36
	94.	N. W. corner Littleton and 15th Aves.	32

HYDRANT STATEMENT--Continued.

Month	No.		Pressure lbs.
Sept.	95.	N. W. corner Academy and High Sts	57
	96.	N. W. corner Academy and Summit Sts	46
	97.	Academy Street, north side, opp. west side of Henry St	48
	98.	N. W. corner Newark and Orange Sts	45
	99.	N. W. corner Hunterdon St. and S. Orange Ave	31
	100.	N. W. corner Livingston St. and Avon Ave	46
	101.	N. E. corner Clinton & Hillside Aves	45
Oct.	102.	S. E. corner 6th Street and 7th Avenue	39
	103.	N. W. corner Bruce St. and Springfield Ave	57
	104.	S. E. corner Bruce St. and 15th Ave	53
	105.	S. W. corner Bruce St. and 14th Ave	48
	106.	N. E. corner 16th Avenue and S. 11th St	35
	107.	Littleton Ave., w. s., bet. 13th Ave. and 12th Ave	28
	108.	N. W. corner Littleton and 13th Aves	32
	109	N. E. corner Academy and Norfolk Sts	41
	110.	Bergen St, w. s., bet. 15th and 16th Aves	40
	111.	S. 10th Street, w. s., bet. 9th Ave. and Warren St	51
	112.	N. W. corner S. 10th St. and 9th Ave	50
	113.	S. W. corner Bruce Street and 13th Ave	53
	114.	N. W. corner Bruce and Cabinet Sts	43
	115.	N. W. corner Littleton Ave. and 11th Ave	41
	116.	S. W. corner Littleton Ave. and Warren St	50
Nov.	117.	N. W. corner Governor and Washington Sts	60
	118.	N. W. corner Longworth and Washington Sts	60
	119.	N. W. corner Spruce and High Sts	40
	120.	N. E. corner Spruce and Quitman Sts	40
	121.	N. W. corner N. 11th and Orange Sts	30
Dec.	122.	Stirling Street, n. s., middle of block, between High and Howard Streets	49
	123.	N. W. corner Charlton St. and Waverly Place	32
	124.	N. W. corner Livingston and Rose Sts	41
	125.	S. W. corner Morton and Broome Sts	43
	126.	Brenner Street, n. s., bet. Rose and Kent Sts	30
	127.	N. W. corner James and Sheffield Sts	52
	128.	Bergen Street, w. s., bet. 13th and S. Orange Aves	39

HYDRANT STATEMENT—CONTINUED.

The total number of hydrants connected with the works at the end of the year was:

In the city on the low service	915
" " " high service	900
Total in the city	1,815
At the Belleville Pumping Station	3
Irvington	53
Belleville	63
Columbia Heights	11
South Orange Township	1
Clinton Township	6
TOTAL	1,952

NOTE—3 old octagon hydrants along Military Park were taken out and not replaced.

SERVICES FROM JANUARY 1st, 1895, TO JANUARY 1st, 1896.

⅝-INCH SERVICES. MONTHS.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No. of Taps and B'xes Only	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe.	CHARGES.
January, 1895	16	..	1	..	..	17	264	$ 246 00
February,	17	14	3	..	..	17	560½	441 00
March,	72	7	1	..	1	72	1,481	1,109 00
April,	105	3	1	1	1	106	1,892½	1,520 00
May,	106	3	..	1	3	109	2,077	1,540 00
June,	95	16	..	1	1	97	2,239½	1,533 00
July,	108	21	..	..	2	110	2,061½	1,740 00
August,	112	4	..	..	2	114	2,048½	1,618 00
September,	123	26	..	..	..	123	2,727½	1,982 00
October,	146	21	..	..	1	146	2,988½	2,288 00
November,	71	9	..	..	3	73	1,246½	1,113 00
December,	102	9	..	..	..	102	2,068½	1,542 00
Totals	1,073	133	6	3	14	1,086	21,655½	$16,672 00

SERVICES FROM JANUARY 1st, 1895, TO JANUARY 1st, 1896.

1-INCH SERVICES. MONTHS.	No. of New Services.	No of Services Renewed.	No. of Taps Only.	No. of Taps and B'xes Only	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe.	CHARGES.
January, 1895	1	..	..	..	..	1	13½	$ 23 00
February,	..	2	..	..	..	..	171	46 00
March,	1	1	..	..	..	1	166	40 00
April,	3	1	.	..	..	3	466	80 00
May,	3	2	..	..	..	3	400	100 00
June,	2	..	1	..	..	3	299	44 00
July,	4	2	..	..	..	4	762	123 30
August,	3	5	..	..	..	3	404¼	160 00
September	6	1	..	..	..	6	261¼	133 00
October,	6	1	..	..	..	6	1,088¾	140 00
November,	5	1	..	..	..	5	531½	120 00
December,	2	..	..	..	.	2	267	40 00
Totals	36	16	1	..	..	37	4,830¼	$ 1,049 30

RECAPITULATION.

SIZES.	No. of New Services.	No. of Services Renewed.	No. of Taps Only.	No. of Taps and B'xesOnly	No. of Boxes Only.	No. of New Water Takers.	No. of Feet of Pipe.	CHARGES.
⅝ inch	1,073	133	6	3	14	1,086	21,655½	$16,672 00
1 "	36	16	1	.	..	37	4,830¼	1,049 30
Totals	1,109	149	7	3	14	1,123	26,485¾	$17,721 30

SPECIAL SERVICE CONNECTIONS FROM JANUARY 1st, 1895, TO JANUARY 1st, 1896.

	2 inch.	3 inch.	4 inch.	6 inch.	Total.
January, '95	..	1	..	..	1
February,	..	..	..	..	..
March,	.	..	..	3	3
April,	2	..	..	1	3
May,	..	..	..	1	1
June,	3	..	..	..	3
July,	3	..	1	..	4
August,	2	..	..	..	2
September,	2	1	..	..	3
October,	4	..	..	1	5
November,	1	1	..	3	5
December	5	1	..	..	6
Totals	22	4	1	9	36

METERS SET FOR 1895.

	THOMSON BEE. Inches Diam								CROWN. Inches Diam.			WORTHINGTON. Inches Diam.					Total
	5/8	3/4	1	1½	2	3	4	6	5/8	3/4	1	5/8	3/4	1	3	6	
Jan., '95	10	.	.	.	.	.	.	.	2	1	2	2	1	.	1	.	19
Feb.,	7	.	5	.	.	.	.	.	1	.	.	.	.	.	.	1	14
March,	8	2	1	.	.	.	.	.	.	.	1	.	.	.	.	.	12
April,	12	.	2	.	2	.	.	.	.	.	1	.	.	2	.	.	19
May,	39	2	8	1	.	.	.	.	.	.	.	.	.	.	.	.	50
June,	14	.	1	1	1	.	.	.	.	.	.	.	.	1	.	.	18
July,	4	1	2	.	2	.	.	.	.	.	.	1	.	.	.	.	10
Aug.,	13	.	3	.	3	.	.	.	.	.	.	.	.	.	.	.	19
Sept.,	9	.	5	1	4	1	.	.	.	.	.	.	.	.	.	.	20
Oct.,	16	.	6	1	2	.	1	.	.	.	.	.	.	.	.	.	26
Nov.,	20	1	4	.	1	.	.	.	1	.	.	.	.	.	.	.	27
Dec.,	19	.	6	.	2	1	.	1	.	.	.	.	.	.	.	.	29
Total,	171	6	43	4	17	2	1	1	4	1	4	3	1	3	1	1	263

METER RATES AND CONSUMPTION BASED ON ANSWERS TO CIRCULAR LETTER.

CITY	Population U. S. Cen's 1890	Meter Rates cents 1,000 gals.		Minimum Charge per year	No. of Meters in Use	Ave. Daily Consumt'n Gallons per capita as report'd 1895
		Lo'est	Hig'st			
New York, N. Y.	1,515,301	13⅔	13⅔	....	32,000	100
Chicago, Ill.	1,099,850	4	10	....	....	....
Philadelphia, Pa	1,046,964	8	8	....	....	....
Brooklyn, N. Y.	806,343	10	10	ac'rding quan used	2,523	80
St. Louis, Mo.	451,770	10	30	pay for what used	3,579	91½
Boston, Mass.	448,477	10⅔	18⅔	....	4,337	100
Baltimore, Md.	434 439	6	6	....	1,155	100
San Francisco, Cal.	298,997	21⅓	40	....	....	....
Cincinnati, O.	296,908	9	15	....	....	....
Cleveland, O.	261,353	5⅓	5⅓	$10 00	2,228	130
Buffalo, N. Y.	255,664	2½	6	50 00	230	271
New Orleans, La.	242,039	15	40	12 00	200	....
Pittsburg, Pa	238,617	10	20	....	....	....
Washington, D. C.	230,392	3	......	....	....	....
Detroit, Mich	205,876	3⅓	6⅔	9 00	3,775	151
Milwaukee, Wis.	204,468	4⅔	20	....	....	....
Newark, N. J.	181,830	9	15	15 00 for meter	1,660	100
Minneapolis, Minn.	164,738	8	8	....	2,000	88
Jersey City, N. J.	163,003	9	20	....	360	100
Louisville, Ky	161,129	6	15	....	1,400	....
Omaha, Neb.	140,452	8	35	10 00	2,000	100
Rochester, N. Y.	133,156	14	14	5 00	5,150	68
St. Paul, Minn.	133,896	6	12	....	110	60
Kansas City, Mo.	132,716	9	25	....	....	....
Providence, R. I.	132,146	15	20	10 00	13,763	57
Denver, Col.	106,713	10	20	3 00 per mon. bus 25 cts. " res.	260	285
Indianapolis, Ind.	105,436	5	25	20 00	500	60
Allegheny, Pa.	105,287	10	10	10 00	11	140
Albany, N. Y.	94,923	8	8	4 00	1,100	180
Columbus, O.	88,150	6	6	....	1,400	....
Syracuse, N. Y.	88,143	6	25	10 00	2,800	....
Worcester, Mass.	84,655	10	25	4 00	10,808	65
Toledo, O.	81,434	3½	10	6 00	3,000	66
Richmond, Va	81,388	7	15	2 00	900	139
New Haven, Conn.	81,298	5	30	10 00	200	142
Paterson, N. J.	78,347	10	25	12 00	80	200
Lowell, Mass.	77,696	13½	18⅔	7 00	3,150	80
Nashville, Tenn	76,168	7	16	10 00	1,800	120
Scranton, Pa.	75,215	8	25	....	....	....
Fall River, Mass.	74,398	10	28	8 00	5,213	36
Cambridge, Mass.	70,028	10	30	15 00 Do. 10 Mfg.	546	71.6
Atlanta, Ga.	65 533	6	13	....	6,000	....
Memphis, Tenn.	64,495	15	25	2 50 per month	400	....
Wilmington, Del.	61,431	4⅔	10	10 00	480	83.2
Dayton, O.	61,220	8	8	9 00	1,200	....
Troy, N. Y.	60,056	5	10	20 00	263	131
Grand Rapids, Mich.	60,278	3½	15	5 00	450	135
Reading, Pa.	58,661	2¼	18	....	148	120
Camden, N. J.	58,313	6	18	....	....	....
Trenton, N. J.	57,458	8	8	10 00	150	....
Lynn, Mass	55,727	sp'cial	20	....	....	....
Lawrence, Mass.	44,654	8	18⅔	7 00	2,930	80
Springfield, Mass.	44,179	7	30	10 00	2,000	90
Hoboken, N. J.	43,648	15⅓	23⅓	4 00	10,000	....
Peoria, Ill.	41,024	6	20	....	860	60
Elizabeth, N. J.	37,764	13⅓	40	....	50	95
Wilkesbarre, Pa.	37,718	5	7½	....	....	....
Holyoke, Mass.	35,637	5	15	....	205	87

Report of the Engineer

OF DEPARTMENT OF STREETS AND SEWERS.

To the Honorable, the Board of Street and Water Commissioners.

GENTLEMEN:

The following annual report is herewith respectfully submitted to your body; it exhibits the street and sewer improvements, together with other miscellaneous public work done under the direction and supervision of this department, during the year 1895.

Street Improvements.

PAVINGS.

The work upon thirty nine contracts was executed during the time from May to January, 1896. Two of the contracts had been awarded in 1893; one was partly done in 1894, and another, Madison Avenue, was mostly carried out under a private contract on the part of the lot owners. The character of the pavings, quantity and cost as per final estimates, are as follows:

	Miles.	Sq. Yds.	Cost.
20 Asphalt pavings	7.49	167,496	$464,611.99
4 Granite pavings on concrete	2.58	36,522	119,914.71
5 " " " sand	1.56	31,958	63,645.32
1 Trap " " concrete	0.35	6,257	17,903.45
5 " " " sand	2.00	31,783	68,388.86
4 Brick " " concrete	1.26	27,414	67,417.41
Totals	15.24	301,430	$801,881 74

The total amount paid to inspectors was $11,553.00, about 1½ per cent. of total cost, or about 3 cents per square yard.

See annexed table "A" of street pavings.

Average price bid per square yard:

Asphalt, 6 in. concrete, 1½ in. binder course, 2 in. asphalt,	$2.70
" 5 " " "	2.67
Granite, on 6 inch concrete	2.91
" " 5 " sand.	2.08
Trap, " 6 " concrete	2.75
" " 5 " sand	1.92
Brick, " 6 " concrete, 1½ inch sand	2.22

No extra payment for excavation allowed.

The contracts for the paving of Belmont Avenue, from Springfield Avenue to Madison Avenue; of Fifteenth Avenue, from Springfield Avenue to South Tenth Street; and of Roseville Ave., from Warren Street to Newbold Street, were also awarded, but the work upon them was postponed until this year, as it was too close to winter. The estimated quantity of these pavings is 58,000 sq. yards, and cost $137,000.

TOTAL NUMBER OF MILES OF STREET PAVINGS UP TO JAN. 1, 1896.

Asphalt	11.67
Brick	1.26
Granite on concrete	5.01
" " sand	18.39
Trap on concrete	0.35
" " sand	11.99
Telford	10.94
Cobble-stone	17.21
Total	76.82 miles.

The net increase in pavings for the year is 11.78 miles, and decrease in cobble-stone paving 3.46 miles.

The five year guarantee upon the asphalt pavings in Gouverneur Street, South Street and Park Street will expire during the year 1896. The paving in the two streets first mentioned, shows cracks which almost extend across the full width of the street. The pavings will be thoroughly examined before the guarantee shall have expired, and the company directed to make the necessary repairs.

It is the first time that brick paving was laid in this city, with the exception of a few hundred yards as an experiment The brick used in the four streets were the Canton repressed shale; the Canton wire cut; the Mack repressed fire-clay and the Mack repressed, grooved block.

One of the conditions for acceptance of paving brick, contained in the specifications, is as follows :

The brick must not absorb more than 3 per cent. of their own weight in water, after being broken and dried in an oven, and then immersed in water for 24 hours.

They shall not lose more than an average of 8 per cent. in an abrasion test, when put in a rumbler 21 inches in diameter, making

43 to 45 revolutions per minute; and containing 150 lbs. of rough scrap iron, the greater number of the pieces to weigh about one pound, and three pieces about four pounds each. The result of the percentage lost to be taken from the following three percentages.

First.—The average percentage lost in first 20 minutes.

Second. " " " " " 2nd " "

Third. The average of the first and second.

There were not less than 8 bricks put in the rumbler at a time, 4 of one kind.

Modulus of rupture to be not less than 1,800, tested on sides and supported on knife edges 6 inches apart.

The co-efficient to be calculated by the formula:

$$\text{Modulus} = \frac{3\,W\,L}{2\,A\,D}, \text{ in which}$$

W = breaking weight at centre.
L = length between supports.
A = area of section.
D = depth.

The brick pavings were laid upon a 6 inch concrete base, 1½ inch sand cushion, and the interstices filled with Portland cement grout; one measure of cement and one of sand.

The pavings appear to be satisfactory, with the exception of a low, rumbling noise, which is produced when wagons pass over it. I will endeavor to learn the cause of the noise, so as to have it avoided in the future, and to remedy it in the present pavings, if possible.

It seems to be almost a common practice on the part of the Paving Brick Manufacturers, to send specially prepared brick for the first test, and not of the average output. I cannot see the object of this practice, as they have to enter upon a ten year guarantee with the contractor. It is certainly very annoying to the engineer in charge of public work.

GRADING AND CURBING.

There were seven separate contracts awarded for grading and curbing, including gutter paving in two of them. Only three of these contracts were completed at the close of the year, at an expenditure, as per final estimate, of $3,404 42. The amount disbursed upon the others up to Jan. 1, 1896, was $6,744.19.

Entire length of streets graded to Jan. 1, 1896, 127 miles.

FLAGGING.

Ordinances for the flagging of five streets were passed, and contracts awarded; only two of them are completed, namely, South Fourteenth Street and South Seventh Street. The cost of these was $1,973.60. The amount disbursed upon the others was $1,287.71 The main walk in Lincoln Park was reflagged with 6 foot flag, and the old material was used upon some lateral walks; the whole amount expended was $648.72, which was appropriated by the Common Council for this purpose. The price paid for the six foot flagging was 14¾ cents per square foot, when laid.

See table "B" of grading and curbing, and of flagging

Sewer Improvements.

This was just as busy a year for building sewers as for paving streets. The total length of sewers built by order of the Board, is 8,587 feet of brick sewers, and 51,679 feet of pipe sewers, with 124 catch basins and 357 manholes, at a cost of $88,661.13, as per final estimate.

In addition to this there were laid 7,513 feet of pipe sewer under private contracts by property owners; including 2 catch basins and 36 manholes. The East Orange outlet sewer was also completed during the year, with 354 feet of brick sewer and 1,512 feet 24 inch pipe sewer, and 28 manholes.

Total length built in 1895; 8,941 feet of brick sewers, 60,704 feet of pipe sewers, 421 manholes, and 233 basins, including 7 ordered by the Board.

The total amount paid to inspectors was $4 729.00, or 7 per cent of the total cost, or nearly 8 cents per foot of sewer.

The section of Woodside, sewered during the year, contains 4,721 feet of brick sewers and 15,173 feet of pipe sewers; the drainage territory comprises 183 acres.

The territory drained by the Fifth Avenue and Lake Street sewers comprises 53 acres, and contains 3,593 feet of brick sewers and 6,309 feet of pipe sewers.

The part of the East Orange outlet sewer within the limits of the city, contains 1,815 feet of circular brick sewer, 8 feet in diameter, 1,040 feet of 2x3 foot brick sewer, and 3,596 feet of 24 inch pipe sewer. It was commenced on September 11, 1894, and completed in the middle of May, 1895. All the preliminary work, plans, and the direction and supervision were done by this department.

The total length of sewers and appurtenances built up to Jan. 1, 1896, are as follows:

Brick sewers..........	286,311 feet,	or 54 23 miles.
Pipe " publicly..	291,715 "	" 55.25 "
" " privately...	98,177 "	" 18.59 "
Total....	676,203 ,,	128.07 "
Basins..................	2,298.	
Flush tanks..................	22.	

Refer to tables "C" and "D" of sewers.

The part of the sewer running through the City Dock had to be rebuilt for a distance of 40 feet from the face of the dock; the distance from the old to the new wharf line had to be rebuilt with heavy timber work. The amount paid to Nathan Solliday was

$373.31; and that to Headley & Christie for brick work, $275 55; total $648. 88.

It is the first time, since its construction in 1883, that the Peddie Street canal was dredged from the Pennsylvania R. R. to the Elizabeth Branch R. R., a distance of 9,600 feet. The quantity of soil removed was 15,702 cubic yds, at a cost of $5,652 72, or 36 cents per cubic yd. Heretofore only the part from the Pennsylvania R. R. to Wheeler's Creek was dredged; a distance of 1,150 feet. As the bank on the north side of the canal had sunk considerably, it was uniformly raised to two feet above ordinary high water, with the soil dredged out of the canal. The width of the top of the bank was made 10 feet.

The banks of the canal, since its construction, have held up remarkably well, considering the boggy nature of the material, and the weight placed upon their sides, by the accumulated material dredged during the course of years. When the canal was first cut to a depth of 9 feet, and a width of 25 feet, its banks were made perpendicular, this being considered preferable to leaving a slope. Experience has proven this supposition to have been correct.

In the year 1893, I had presented a report and plan for the sewering of a part of the present Tenth and Twelfth Wards, which I called the East Branch Sewer System. And another report and map of the Adams Street sewer, dated February 26, 1895. As the problem was a very difficult one, and the ultimate expenditure of money very great, I recommended to the Board to submit the matter to a Consulting Engineer. This Board therefore called upon Mr. Rudolph Hering of New York, to examine my report and plans, and to consider the treatment of the adjacent meadow land.

My reports and that of Mr. Hering are herewith given, and a map of the city explaining Mr. Hering's report, attached.

Report of the City Surveyor

To The Board of Street and Water Commissioners.

NEWARK, N. J., Feb. 23, 1893.

GENTLEMEN :

I herewith respectfully submit to you the following report, together with two plans relating to the proposed sewerage of a part of the First and Second Wards, formerly belonging to the Tenth and Twelfth Wards. For a matter of reference I have named it the "East Branch Sewer System." One of the plans shows the whole territory intended to be sewered, while the other only shows the location of the main sewer, with a longitudinal section or profile of the same.

I divided the whole territory into nineteen sections containing in all 790 acres; all the sections are tributary to the proposed main sewer, with the exception of Section I, which is intended to be drained into the present intercepting sewer directly.

The entire length of the main sewer is 11,227 feet long, commencing at the intercepting sewer in Bay Avenue at Avenue I, (at which point a spur from the intercepting sewer was built for this purpose) thence running through Avenue I to Jabez Street, through Jabez Street, Berlin Street and Avenue L to Hawkins Street; through Hawkins Street, Horatio Street and Manufacturers' Place to Ferry Street or Plank Road, thence along the Plank Road to Lockwood Street. The difference in elevation between the extreme points of the main sewer being 8½ feet. The same plan also shows a proposed sewer through Hawkins Street, Schalk Street and Passaic Avenue, from Horatio Street to Freeman Street, which is designed to intercept the flow of sewage of the Freeman Street sewer which drains an area of 81 acres, marked Section XIX.

The following list gives about the number of houses now built within the respective sections:

Sections	V, VI	221
"	VII, VIII, IX, X	490
"	IV, XI, XII	48
"	XV	67
"	XVI	42
"	XVII	67
	Total	935

As the present intercepting sewer was designed to principally carry off house sewage only, with a storm allowance of only ¼ to ⅜ of an inch per acre for 24 hours, I have in a general manner followed out the same plan.

In determining the volume of flow in the main sewer, I assume a population of 90 persons per acre, at 75 gallons of water per person, per day. For the maximum flow I took ⅔ of the whole daily quantity to be carried off in 8 hours. This reduced to cubic feet and flow per second gives .020833 cubic feet per second per acre; ⅜ of an inch of storm water per acre in 24 hours, makes .015755 cubic feet per second, per acre. As the main sewer and some of the branch sewers will be below ordinary high water line, there will be some ground-water finding its way into the sewers, as no masonry can be constructed perfectly water tight. For this factor I have assumed $\frac{1}{13}$ of an inch in 24 hours, making .003232 cubic feet per second, per acre, the sum of these three is .039820 cubic feet per second, per acre.

I calculated the velocity of flow by means of Kurter's formula: VEL.=cVRI, using the factor of .013 as coefficient for roughness; I also assumed the flow to run ⅔ full of the vertical height of the sewer.

In determining the sizes of the Branch Sewers, I assumed the the population of 104 persons per acre, with 75 gallons per person, per day; the other factors I left unchanged; making a maximum flow of .043061 cubic feet per second, per acre; these sewers to run but half full.

It is perhaps appropriate and interesting at this time to show the density of the population per acre in this city, as per areas of the old Wards, and the population according to the census, which was directed to be taken by his Honor, the Mayor:

Wards.	Area in Acres.	Population.	Pop. Per Acre.
1	190.54	8,141	42.2
2	127.76	8,375	65.5
3	126 72	6,618	52.2
4	132.00	7,024	53.2
5	114.15	5,607	49.9
6	637 31	26,974	42.3
7	151.51	9,996	65.9
8	1,932.02	21,078	10.08
9	153.81	7,167	46.60
10	794.84	14,267	17.80
11	915.76	12,079	13.10
12	997.33	21,087	21.10
13	601.47	29,723	49.40
14	577.36	5,925	10.20
15	149.22	8,994	60.20

In the areas of the Tenth and Twelfth Wards I did not include the meadow land. As will be observed, the most thickly populated Wards have about 65 persons to the acre.

The approximated cost of the main sewer is $143,458.00, or $12.80 per foot; that of the Freeman St. Interceptor $30,000.00, or about $10.00 per foot.

The above mentioned amount for the main sewer also includes the cost of appropriating land, which will be necessary to be taken along Avenue I, Berlin Street and Avenue L. I would recommend that the respective parts of these streets be open in the regular manner, in case the sewer is to be built, as in this way about ⅔ of the cost can be assessed back as benefits. This course was adopted when the Interceptor Sewer was built.

It is my view that for the present it is necessary only to provide sewer facilities for the territory comprised within the sections 5, 6, 7, 8, 9 and part of 10; extending as far as to Charles Street.

If only this part is constructed the cost will be about as follows:

Main Sewer, 6,112 ft. $13.50	$82,512.00
Branch Sewers,	25,671.00
Total	$108,183.00

If the branch sewer through New York Avenue should be constructed, it will be necessary to open said Avenue from its present terminus to Jabez Street, which will cost about $12,000.00 more. This improvement will have to be done sooner or later, as the avenue is now opened to only about one-half of the block between Garrison and Gotthart Streets.

I did not figure upon the cost of any storm water conduits, which are indicated upon the plan by means of a broken red line. The storm water will have to be carried in a great measure into the present water courses, as the Intercepting Sewer was not designed to receive storm water to any extent, as I have stated once before.

The grades of most all of the streets within the sections 5, 6, 7, 8, 9 and 10, and in parts of 11 and 12, are established by common Council or otherwise, and buildings erected accordingly. If the city would undertake to change the grades of those streets, which were abopted by Council, it would be liable to all the damages caused thereby.

The Waverly and Passaic Branch Railroad, which now runs above grade, through the respective sections, will also not admit any material change of grade.

As the total cost of the entire proposed sewer system, if ever carried out, would involve the expenditure of a large sum of money, I would consider the Board justified in submitting the report and plans herewith presented to an expert engineer, and I would respectfully recommend this action.

Obediently,

(Signed) ERNEST ADAM,

Engineer of Street and Sewer Department.

Report of the Engineer

OF STREET AND SEWER DEPARTMENT.

To the Board of Street and Water Commissioners.

NEWARK, N. J., Feb. 26, 1895.

GENTLEMEN:

At a previous meeting I was directed to prepare a map showing the drainage area of a proposed sewer in Adams Street, from New York Avenue to South Street, a distance of 2,400 feet; also to state the amount of storm water and sewage which this intended sewer was to carry off, and to mention what additional burden this would place upon the pumps at the Pumping Station of the Intercepting Sewer. Furthermore, to suggest a plan giving a temporary relief of the surface water at the junction of Adams and South Streets.

I herewith submit a map showing that particular locality and also the adjacent territory, so as to give a more comprehensive view.

In order to ascertain the drainage area of the proposed Adams Street Sewer, I had to establish the grades and elevations of some of the streets, as is shown upon the map. It will necessitate the change of grades of a few streets, which are already established, graded and curbed. I have not raised them as high as they ought to be, as it would have conflicted too much with the buildings already erected in that section, if I had done so. I have also prepared a map, which shows the elevations of door and window sills of those buildings, and the respective elevations of the proposed grades.

The respective drainage area covers 66 acres. I have assumed 45 per cent. of a rainfall of 2½ inches per hour, without considering the slope of the land; this amount is equal to a rainfall of ½ inch per hour, or $\frac{5}{10}$ cubic feet per second, per acre, all of it to reach the sewer within that time.

When storm water of such a quantity is assumed, the sewage proper is not taken in consideration, as it is but a small factor in comparison with the other. $\frac{5}{10}$ or a half cubic foot per second would be 33 cubic feet for the whole area, which is equal to 21,384.000 gallons per day. The section of the Intercepting Sewer, from Jefferson to Sanford Street, is a circular sewer, 4½ feet diameter, and with the slope upon which this section was designed gives a capacity of 27,710,324 gallons per day. The amount of sewage and storm water to reach Adams Street is 28,175.040 gallons per day, from a territory covering 2,036 acres as mapped out upon the Intercepting Sewer plan. The maximum quantity per day, lifted at the Pumping Station during the year 1894, was 19,469,976 gallons.

minimum 4,989,112 gallons,
average 10,094,873 "
Total during the year, 3,684,628,864 "

At severe rain storms, and heavy thaws of snow, the screw gate at Peddie Street and Frelinghuysen Avenue is closed. The capacity of the present pumps is 30,000,000 gallons per day, at a piston speed of 110 feet per minute, for which they were designed. Making an allowance of 8 per cent. of the quantity for slip in the pumps. In a statement furnished to the newspapers, at the time the Intercepting Sewer was being built, I suppose by Mr. John S. Schaeffer, the engineer in charge of that work, it says: "This sewer is not intended to drain the land through which it passes, but to take sewage from the other sewers; it being built on a lower level, and passes under the sewers, intercepted at right angles."

This sewer was designed to intercept the sewage and a small portion of storm water (¼ to ⅜ of an inch in 24 hours) from a large section of the city, about 7,400 acres.

And this Adams street territory is not the only one that is in such a condition, a large section contiguous to the proposed East Branch sewer is in a similar one.

If the storm water of a part of this territory, say 198 acres, the whole area being 790 acres, would be assumed at the same rate as that for Adams Street sewer, ½ inch per hour, it would make 64,152,000 gallons additional, and together with the sewage and small amount of storm water for the balance of the territory, 77 112,000 per day.

The dimensions of the Intercepting Sewer from Avenue I to the Deposit Sewers is 6½ feet in diameter, and with the slope upon which it was built has a capacity of 69,634,080 gallons per day.

It is quoted in a description of the Intercepting Sewer Work furnished to the "Sanitary Engineer and Construction News" that the pump wells have a capacity of 100,000,000 gallons per day. It is further stated that the old sewer outlets will be retained to serve as overflows for any excess of storm-water.

Mr. A. Fteley, who was Consulting Engineer in planning the Intercepting Sewer System, in his report to the Special Committee on Sewers, says: "The elevation of the surface should not be less that eight feet, or it may be found preferable, in order to reduce the height of filling, to resort to a double system, viz: one system of drawn-pipes directly connecting the houses with the collecting sewer, and one system of surface sewers, with small inclination, to be connected with the meadows or with the storm water sewer, when the time comes to build it."

This latter course I have followed out, with a slight variation, in devising the plan for the East Branch Sewer District.

As to the temporary relief of the surface water at Adams and South Streets, I have already made my suggestions at the last meeting.

As there is quite a general impression that the sewers in this city are defective, and that a comprehensive plan is necessary; also as there are quite a number of difficult problems connected with the sewerage, particularly with some of the meadow, I would respectfully suggest to the board to secure the services of the eminent engineer, Mr. Rudolph Hering, of New York, for consultation. He has been called upon by numerous cities to act in that capacity, and presently is engaged by the city of New Orleans, La. Mr. Hering has not alone a national, but an international reputation as a Civil Engineer (sewage work especially,) as Mayor Hewitt of New York City expressed himself, in which city he was also engaged and acted as Consulting Engineer upon the public sewerage.

Respectfully submitted,

ERNEST ADAM,

Engineer in charge of Streets and Sewers.

New York, July 19, 1895.

To the Honorable Board of Street and Water Commissioners,
Newark, N. J.

GENTLEMEN :

In compliance with your resolution of May 4th, 1895, communicated to me by letter dated May 16th, in reference to the sewering and draining of that territory of the city lying east of the Pennsylvania Railroad and between the Passaic River and Bound Creek, and also referring to the specific subjects communicated to me in a letter by your engineer, Mr. Ernest Adam, dated June 26th, I respectfully present the following report.

Yours Truly,
(Signed) RUDOLPH HERING.

Report of the Sewerage and Drainage

OF A PORTION OF THE CITY OF NEWARK, N. J.,

BY

RUDOLPH HERING, Consulting Engineer.

New York, July 19, 1895.

In order to arrive at satisfactory conclusions, a careful examination had to be made of the territory, of the existing sewerage and drainage works, as well as of the plans for the "East Branch" district and for Adams Street, which have been prepared by Mr. Adam in accordance with your directions.

The study demanded the consideration of a much larger territory than that shown on the plans presented to me for examination. Covering as they do but a small part of the future sewerage system, they should nevertheless be in complete harmony therewith. These plans, further are to a large extent dependent upon the manner in which the. Meadows, flooded at extreme high water, are to be improved and made available for city purposes. Therefore, the study had to be extended in order to satisfactorily reach the more important general conclusions regarding the best treatment of the entire Meadow area, covering more than six square miles between the improved parts of the city and Newark Bay.

The principal subjects which have therefore received consideration are :

I. How and where the sewage of Newark is to be disposed of.

II. How the Meadows are to be made available for city purposes.

III. The combined or separate removal of the sewage and rain water.

IV. The proposed sewer on Adams Street.

V. The proposed "East Branch" sewerage and drainage system.

These subjects will be considered in the above order.

I.

SEWAGE DISPOSAL.

The most economical and least complicated method of disposing of the sewage of Newark, and of those cities and towns which in the future will probably carry their sewage through its territory, is to discharge it into Newark Bay, and permit the water to dilute, disperse and eventually remove it. Previous inquiries as to the question of disposal for your city have resulted in this conclusion, and at the present time there is no indication that any better method may be available.

The present outfall sewer, extending diagonally across the Meadows and on Bay Avenue, forms a proper solution of the disposal question. It discharges into the bay at a suitable point and under suitable conditions when it is in proper repair. Its present size is sufficient to convey the sewage of a large population to the outfall. When the growth of the city causes it to become too small, another sewer on the same route may be readily added or substituted.

II.

TREATMENT OF THE MEADOWS.

The present method of treating those parts of the Meadows which adjoin the higher land and which are now demanding improvement, is to fill them to a height carrying from five to nine feet above tide water. Propositions recommending this method, as being the proper one, were made as early as 1874 by Mr. L. H. Armstrong, chairman of committee on sewers and drainage. In 1888 a special committee of the Board of Trade proposed diking a portion of the Meadows to keep the tide water out, and removing the rain and drainage water by pumping.

No systematic treatment has yet been adopted by the city and the Meadows remain almost useless. As remarked above, it is now time to consider this question seriously, because the plan for extending the sewerage system almost wholly depends upon a solution of the Meadow question.

Notwithstanding your limitation of the time to be devoted to a consideration of the plans before me, I have given this question all the necessary attention to reach a satisfactory conclusion. It is clear to me, that the interests of the city and of the owners of the Meadow property as well as of the land adjoining the same, are best served by diking most if not all of the meadow land, and in such a sufficiently thorough manner that the highest tide will not encroach upon it and that the seepage will be reduced to a minimum. Pumping machinery, properly located and arranged, will then be able to sub-drain the enclosed Meadows to a depth of from six to eight feet below the surface, to permanently maintain the dryness of the soil to this depth, and to remove the rain-water of the heaviest storms as fast as it is delivered. In other words the present useless territory can be made as serviceable for city purposes by diking, as though it were filled from five to nine feet above high water. The method of diking populated low ground is quite old, and has everywhere given satisfactory results where proper skill was employed in the design and management of the work. It is hardly necessary to refer to the lowlands of Holland and Germany, near the shores of the German Ocean, which have thus been reclaimed for centuries. In our own country the city of New Orleans has adopted a plan by which about 25,000 acres are enclosed by dikes to keep out the flood waters of the Mississippi in front and the tide waters of the Gulf of Mexico in the rear. All the rain water from the semi-tropical storms and the drainage water must be pumped from the entire territory.

Nor is such a method of treatment expensive. Let us consider an acre of meadow land which has about the elevation of high water. To fill it six feet would require about 10,000 cubic yards of material. Estimating this to cost as little as 25 cents per yard, it would require $2,500 for every acre, which at four per cent. interest, would represent an annual expenditure of $100 per acre. As filling all the low land would require over fifty million cubic yards, there is not sufficient material available in the Bay in front of the city of Newark to do this filling, nor would all the dry refuse of the city carted upon the "Meadows" fill up more than an insignificant portion of the same.

On the other hand, if the territory is enclosed by dikes, and is provided with drains and canals to collect the rain-water and deliver it to the pumps, the expense for dikes, drains, canals and pumping stations need not exceed $300 per acre for the larger and possibly double this for the smallest areas that it might be deemed wise to enclose with a dike. At four per cent, interest this amount would represent annually from $12 to $24 per acre. The annual cost of pumping rain and drainage water may be arrived at as follows: The rainfall per year is about 45 inches or 3¾ feet in depth. Assuming that the seepage from the river and Bay may fully equal the evaporation then, annually, a solid mass of water, nearly four feet in depth, amounting to about 1,300,000 gallons per acre must be lifted about 10 feet. The annual cost of coal for this pumping would probably not exceed 60 cents per acre by using the best centrigugal machinery. If we assume a large tract of at least 1,000 acres, the annual cost of attendance and maintenance of machinery should not exceed $10 per acre.

To recapitulate: The cost of filling the territory to a proper depth would be represented by an annual sum of, say, $100 per acre, while to dike the same and pump the rain and drainage water would cost annually from $25 to $35 per acre, according to the size of the area. It is therefore clear that, while diking and pumping is quite effective in draining and drying the "Meadows" it is also much less expensive than filling the same up to a suitable level above high water.

Sufficient time was not available (nor was it necessary for the present purpose) to indicate in detail how the diking and the drains should be arranged, nor where the pumping station or stations should be located in order to accomplish the best results. This subject can as well be taken up separately at a later time. It was, of course, necessary for me to make certain assumptions regarding the location of pumps and drains so as to assure myself of the practicability and relative economy of the recommendations. Further study, I am sure, will improve the preliminary design, but it cannot alter the conclusions and recommendations contained herein.

III.

COMBINED OR SEPARATE SYSTEM OF REMOVAL.

The question as to whether it is better to remove the foul waste water and the rain water in the same sewers, or to remove them separately, depends for its answer upon the relative economy of the systems in the particular localities where they are to be applied. At present the combined system is almost exclusively used in your city. For most of the territory and where rain water can readily be taken to the river by gravity, it is unquestionably the better one. For that part of the city represented by the "Meadows," however, and that from which the rain-water naturally flows toward them, the separate system will generally be preferable, because the total cost can be considerably reduced thereby. This economy is partly effected by the existing Intercepting Sewer, by the pumping station and by the long Outfall Sewer, all of which are to be utilized for the removal and discharge of a large quantity of the foul water. It is also effected by the existing creeks and ditches into which the rain-water can without detriment be discharged at any convenient point or points, and because sewers, to remove only the foul water from a large territory requiring improvement, may be built for a much smaller sum than large combined sewers. The rain-water can be removed by drains or open canals, suitably designed and built, and which are also inexpensive, so that the total cost is much reduced.

The separate treatment of the sewage and rain-water removal has been found desirable in a number of cities because it facilitates the opening and improving of new territory at a low cost, and at an earlier time than is otherwise possible.

To verify this conclusion in the present case, I have considered its bearings in detail upon both the plans before me for examination.

IV.

PROPOSED SEWER ON ADAMS STREET.

The low grade of Adams Street has made the removal of rain-water, as well as of sewage, a pressing question. It was proposed to build a combined sewer to discharge into the present interceptor at the intersection of Adams and South Streets. Your engineer, Mr. Adam, does not approve of this proposition, because "it would almost use up the whole capacity of the Intercepting Sewer at that point, leaving no provision for the sewage from above." He further says: "This territory ought to be treated with a separate system." I fully agree with Mr. Adam on these points. It would be an unwise and perhaps a dangerous proceeding to discharge the storm water from Adams Street into the Interceptor, even temporarily, not only because it was never designed for such a purpose, but also because its subsequent exclusion therefrom would entail unnecessary cost and difficulties, and it would also permanently add unnecessary pollution to the canals receiving its overflow.

I therefore advise that a sewer be built on Adams Street for the reception of sewage and seepage water only ; that its discharge be directed into the interceptor and that it be laid deeper than shown on the profile, so as to dry the ground more effectually by giving the laterals greater depth.

I further advise that a drain be built on Adams Street as far up as may be necessary to remove the rain-water which cannot be carried in the gutters. This drain should be as near the surface as pacticable, and built of brick, in a suitable manner. It should be carried over the interceptor and temporarily discharged into a ditch leading to Dead Creek. The size should be determined from recent data regarding the greatest quantity of storm water which is likely to reach the drain and which have been furnished to Mr. Adam in the shape of two diagrams, which should be adapted to the heaviest rainfalls observed in the city.

It would not be objectionable at its temporary outfall to have the inside top of the drain level with the high water mark or even slightly below it. For the present this drain could discharge all water reaching it without difficulty, although it might possibly be slightly submerged at times, and after the meadow territory is improved by diking, as recommended above, it would discharge quite freely at all times. A drain will discharge freely if its hydraulic grade line, or the surface of the flowing water, is above high tide level.

It may be stated at this place that the formation of so called pockets at the street intersections should hereafter be avoided as much as possible. It is usually better to have a less slope for the gutters than a greater one with the attending disadvantage of having a pool of water at the intersection of two streets, when some catch basin may have become obstructed. An evenly graded and smoothly lined street gutter with a slope of 0.3 per cent. is quite capable of properly removing the water.

The branch of the Interceptor on Sanford Street and subsequently skirting the Passaic River for the purpose of intercepting all the sewage now entering the river, as proposed in 1884 by your Consulting Engineer Mr. Fteley, is fully approved and should be utilized for the reception of sewage, but not of storm water, along its course. The separate system of sewage removal may, therefore, be extended near this Interceptor up to the natural divide between the Passaic River and the "Meadows" in connection therewith.

V.

PROPOSED "EAST BRANCH" SEWERAGE AND DRAINAGE SYSTEMS.

Mr. Adam has prepared a plan and report on the sewerage and drainage of about 790 acres comprising what is known as the "East Branch sewer system." He has recommended the separate system of removal for this territory, which conclusion I can unhesitatingly approve of, for the reason that the sewage can thus most economically be delivered to and pumped into the Interceptor, while the rain water can be disposed of at much nearer points than the sewage and in a less expensive and more satisfactory manner.

Mr. Adam has selected for the main sewer a line substantially as recommended by Mr. Fteley in 1884; the alterations which he has made therefrom, in accordance with changes in in street alignments, have been made with good judgment and care.

In view of the general recommendation made above regarding the meadow treatment, and as a part of the "East Branch" system has been based upon the assumption that the "Meadows" will be filled instead of being diked, certain changes are therefore necessary. Several streets north of Hamburg Place have already been raised several feet above the meadow level. It therefore appears proper that the proposed plan of sewerage should be adhered to for the territory bounded by Hamburg Place, Elizabeth Branch and Newark and New York Railroad, barring some slight adjustments. South of Hamburg Place, of the Waverly and Passaic Railroad, and of the line of the proposed main sewer on Avenue I, I advise a substantial lowering of the proposed street grades and a revision of the drainage and sewerage systems to conform with the above proposed diking project, for which plans should be prepared at an early date. The sewage of this section of the meadow territory should be delivered to the present pumping station by main sewers located on Avenues K and L and on Milller Street.

Inasmuch as the proposed main sewer on Berlin and Jabez Streets is quite low, it is practicable to sewer into it some of the territory situated south of it, notwithstanding that the general level is not raised above the present natural surface. A detail study will indicate to what extent this may be accomplished.

North of the Newark and New York Railroad I advise the exclusion from the "East Branch" main sewer of all the sewage from the territory lying south of the Waverly and Passaic Railroad, excepting west of Avenue N, and a corresponding lowering of the street grades to conform to the low level diking project.

The district north of the Morris Canal, which has already been provided with a separate system of sewerage, the outfall of which is into the river at the foot of Brown Street, should be united with the "East Branch" system and its ordinary flow of sewage kept out of the river. This union can be accomplished by laying an 18-inch pipe from the intersection of Brown Street and Lister Avenue to Chapel Street, and thence on Passaic Avenue to Schalk Street, where, with a grade of 0.1 per cent. it can discharge into the "East Branch" main sewer. Although this grade is very light, flushing facilities from the river at high water are excellent, and this interception with a light grade is less objectionable than a future discharge into the river.

It is further necessary to intercept the sewers near the intersection of Esther Street and Euclid Avenue by an 18-inch pipe which, at a grade of 0.1 per cent., can discharge at Lockwood Street into the "East Branch" main sewer on Ferry Street. This pipe may be effectually flushed from the canal. Both sewers should be provided with proper tidal and flushing gates at suitable points.

The alignment of the remaining part of the "East Branch" sewer system, being well considered and carefully worked up in detail, is approved.

In view of the changes resulting from the recommended meadow treatment, it will be necessary to revise the sizes of the mains and laterals. Regarding the assumptions which Mr. Adam has made for computing the sizes, I find them carefully considered and can fully approve of them. As the quantity of ground water should be kept as small as possible, it is necessary that the construction of the sewers should be very carefully supervised, so that the seepage will be a minimum and the proposed sizes not too small. In connection with the "East Branch" sewer system it is necessary to consider more in detail the treatment of the meadow area situated north of the Newark and New York Railroad. This section should form one district. It is sufficiently large—about 300 acres—to make a pumping station practicable and economical. So far as I have been able to give the study of this area any time, it appears best to locate a pumping station near the intersection of Ferry Street and the Waverly and Passaic Railroad. This point is central to the area and therefore causes the least filling of the streets and the least sizes for the sewers and drains. Dikes should be placed along the shore of the river from the Newark and New York Railroad to the high ground near Lockwood Street. The sewage should be lifted and discharged into the proposed main sewer of the "East Branch" district on Ferry Street, and the rain water may be lifted and discharged into the lower reach of the Morris canal, to which there should be no serious or unsurmountable objection. The "East Branch" sewer should, therefore, be proportioned large enough to receive the sewerage from this diked area

After having discussed the provisions for the collection and removal of the sewage from the "East Branch" district, and from the other districts which eventually will be tributary to it, it remains to consider the removal of the rain and seepage water from the same territory.

From the recommended treatment of the meadow area, it follows that the intention, once proposed but not carried out, of discharging the storm water, collected north of the Intercepting Sewer, into the Passaic River, is not the best nor the cheapest way of disposing of it. It has already been stated, when speaking of the Adams Street sewer, that the storm water should be led southerly into Dead Creek. All other water, naturally reaching these meadows, should be led in the same direction by drains or canals, in a manner suited to the territory.

It is best to make one drainage district of that part of the "Meadows" which is bounded easterly by the Elizabeth Branch Railroad and southerly by Peddie's Ditch. The pumping station should be placed near the southeastern corner. For a long time, if not for all time, the collecting ditches may be left open, thus avoiding the expense of walling and covering them. They will not or should not be foul because no sewage should enter them, this being provided for by a system of sewers.

The drains which are most needed in this district at the present time, in addition to those already mentioned, are for the territory which is almost co-extensive with the "East Branch" sewerage system. They are suggested as follows:

1. A drain on Bonykamper Avenue from the low depression or pocket at Christie Street to Avenue B. and thence across the railroad embankment to discharge into Haskey Creek.

2. A drain from the pocket on McGregor Avenue and Emma Street to St. Charles Street, thence to Avenue L, and on this avenue to south of Hamburg Street, where it can be made to discharge for the present into Pierson's Creek, and later into suitable ditches or canals.

3. A branch drain from the intersection of Avenue L and St. Charles Street easterly to Avenue M.

4 A branch drain on Magazine Street from Avenue L to Kossuth Street, or further if deemed advisable.

5. A branch drain in Niagara Street from Avenue L to Frankfort Street, or further if deemed advisable.

6. A drain on Chestnut Street from the intersection with Elm Road, easterly to a point between Avenues J and K, where it can temporarily discharge upon the "Meadows" or be carried by a ditch into Pierson's Creek.

7. Branch drains may be built northerly as required from the latter to some existing depressions or pockets.

8. A drain on Manufacturers' Place from Horatio Street to Bonykamper Avenue.

9. A drain on Passaic Avenue from the Manufacturers' Railroad crossing, down Passaic Avenue to the meadow.

The above enumerated drains, and the "East Branch" sewerage system, as endorsed above, will permanently improve the territory which it is intended to relieve. Whatever extensions are required thereafter can be readily made in harmony therewith, if the main sewer is built upon the line proposed by Mr Adam, and if the meadow territory is improved by diking, and by pumping the rain water that falls upon it.

If the "East Branch" sewerage system were built of a capacity to receive and remove also the rain water, the expense would be much greater and the results would not be so good. The meadow districts would require the pumping of the rain water also in this case. Overflows from the sewers would be necessary and this water would have to be carried away in open channels across the "Meadows." These channels would then be more foul and more objectionable to the inhabitants than if the rain water had not before been mixed with sewage, as now proposed.

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ASTOR, LENOX AND
TILDEN FOUNDATIONS.

Reference has been made to the diking of only two districts, viz., one situated north of the Newark and New York Railroad, and the other north of Peddie's Ditch, and west of the Elizabeth Branch Railroad. The remaining territory can likewise be best improved by diking and may be divided into two more districts, one lying between Peddie's Ditch and the Bound Creek, the other north of Peddie's Ditch and east of the Elizabeth Branch Railroad. Whether the same pumping station recommended to be placed in the south-east corner of the second district mentioned above, can be used also for these other districts, may be determined after the plans for diking the districts are more fully considered. It seems probable, however, that the same station could be made to answer, and thus further reduce the expense of the diking project.

In conclusion it may be added that, while at present the meadow land brings practically no return to its owners or to the city, it would at once become taxable property when diked and drained. It would become available for building purposes and other city improvements, but even if the entire territory is not at once improved in this manner, the remainder could be utilized for agricultural purposes and yield a return, which at present is impossible on any portion of it.

Intercepting Sewer.

The quantity of sewage and storm water pumped at the pumping station of the Intercepting Sewer during the year, was 3,767,871,786 gallons, as per counter indicating number of revolutions, allowing 8 per cent. slip in pumps.

Maximum, July 31	20,091,352 gals.
Minimum, Feb. 23	3,982,004 "
Average	10,322,936 "
Pounds of coal consumed	998,852
Pounds of ashes produced	153,384

See graphical table "E".

The settling basins at the pumping station were cleaned five times, the total quantity of sludge removed was 1,517 cubic yards, at an expense of $786.07, or nearly 52 cents per cubic yard, clearing dump for deposit of sludge, $91.89.

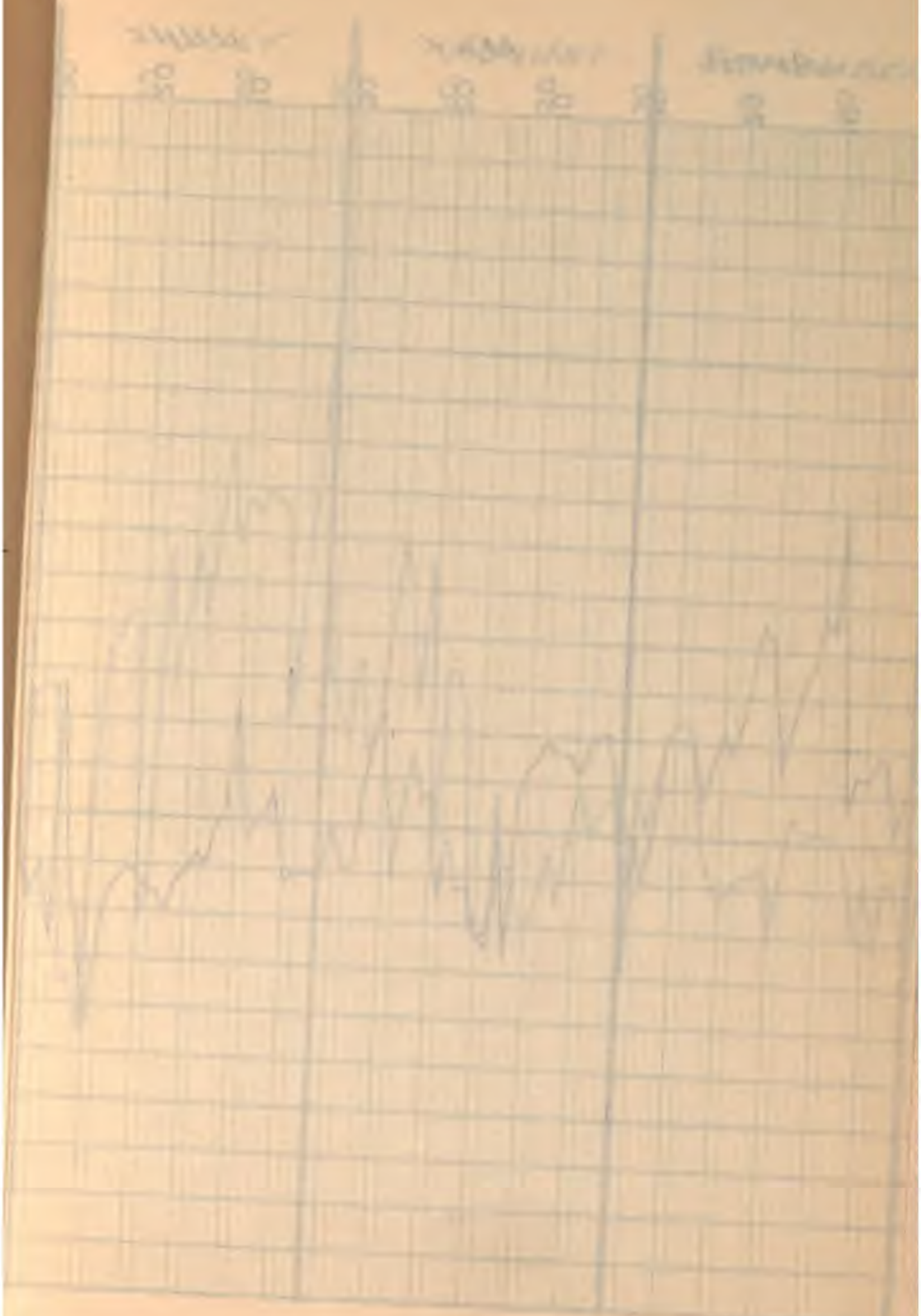
The cost of labor employed at the pumping station, and the names of the employees, are:

D. M. Harris, Chief Engineer	$1,200	00	per year
Charles Ball, Asst. "	1,000	00	"
Conrad Gehde, Asst. "	1,000	00	"
Richard B. Hunt, Fireman	$2	50	per day
John Glennon, "	2	50	"
Alex. Hofer, "	2	50	"
Patrick Dolan, Laborer	2	00	"
Fred. Rau, " since August	2	00	"

Total for the year, $6,973 50.

Total expense for Pumping Station:

Employees Pay	$6,973	50
Coal	1 784	31
Water Rent	50	00
Special repair to Engine No. 1	895	00
Repair to Pumps	597	94
Supplies, oils, waste, etc	251	88
Telephone Rent	100	20
Repair to Buildings	236	94
Total	$10,889	77



Bridges.

The bridge in Bloomfield Avenue, across the Morris Canal, which has a span of 40 feet, was reconstructed by substituting 20 inch steel I beams for those of wood; the covering is 4 inch yellow pine planking. The amount paid to the contractor, Wm. Hanna, was $1,478.00. The part occupied by the foot walks remains to be done.

The abutment walls of the Broad Street bridge across the canal were repaired and a part rebuilt, in view of reconstructing the bridge, but on account of some difficulty with the canal company, the matter was postponed. The repairing of the walls was done by Clark Bros , masons, at a cost of $980.23.

The sum of $1,111.09 was expended upon repairs of the timber work and minor items, of the other bridges across the canal. There was considerable other work done in the department, beside that enumerated in the report; such as making surveys for the public school department, surveys and maps for street openings, record maps of all sewers built during the year, maps for the Assessment Commissioners of Public Improvements, etc.

One of the most tedious and time-robbing matter taken up, is to ascertain and map the location of private drains which were laid in former years. In some cases it is found, that the person who laid it, is dead; and those still living do not correctly remember the particulars distinctly.

From the time that this work was started, about two years ago, 140 drains were located, as accurately as possible, and mapped into a special book.

The expense of the Department for the year was:

SALARIES.

Ernest Adam		$ 3.500	00
Louis C. Dittler, Principal Asst. Street Work		1,800	00
Wm. A. Howell	Street Work.	1,200	00
Robt. W. Redman, since July 1st		600	00
Chas A. Stilger		840	00
Wainwright Ripley, since July 1st		360	00
Walter W. Kane, since Aug. 14th		274	00
Edw. S. Rankin, Principal Asst. Sewer Work		1,500	00
John Schieck	Sew. Wk.	1,200	00
H. D. Franklin		840	00
J. B. Burnett, Jr., since July 1st		450	00
Geo. C. Brandley, Principal Asst. of Office		1,500	00
F. W. Dusenberry, 2nd Asst. of Office		960	00
		$15,024	00
Car Fares		223	70
Horse and Wagon		325	00
Instruments, drawing material, etc.		320	74
Total		$15,893	44

Not quite two per cent. of the total cost of the public street and sewer improvements, done during the year; excluding all other work mentioned in the report.

Respectfully submitted,

ERNEST ADAM,

Engineer in charge of Department of Streets and Sewers.

STREET PAVINGS—1895

Table A.

	Streets Paved	Location	Material	Length	Square Yards	Cost per s yd.	Final Estimate	Total Cost	Ass'm't on Property	Ass'm't on City	Contractor	Character of Foundation Laid
1	Academy st	High st. to Wallace place	Oblong Trap	2,385	7,784	$1 88	$ 16,513 85	$ 17,781 58			John F. Shanley	Sand
2	Belmont ave	Madison ave. to Clinton ave	Asphalt	152	1,202	2 70	3,438 70				Barber Asph. Pav. Co.	6 inch concrete
3	Boyd st	Waverly pl. to W. Kinney st	Oblong Trap	1,850	6,257	2 75	17,903 45	18,898 57			John F. Shanley	6 inch concrete
4	Bruce st	Springfield ave. to Warren st	Asphalt	3,700	13,455	2 65	36,9 9 78	38,483 85			Barber Asph. Pav. Co.	5 inch concrete
5	Chestnut st	Broad st, to Mulberry st	Asphalt	845	2,330	2 69	6,479 05	7,073 20	$ 6,679 72	393 48	Barber Asph. Pav. Co	6 inch concrete
6	Clifton ave	Fifth ave. to Bloomfield ave	Asphalt	1,086	3,380	2 70	9,507 07	10,148 00			Barber Asph. Pav. Co	5 inch concrete
7	Clinton ave	Broad st. to Elizabeth ave Johnson ave. to W. Newark Br. R. R.	Asphalt	5,490	30,163	2 70	83,549 81				Barber Asph. Pav. Co.	6 inch concrete
8	Clinton ave	Elizabeth ave. to Johnson ave W. Newark Br R. R. to city line	Oblong Gran	1,755	8,016	2 12	19,440 23	107,490 70			Thomas J. Regan	Sand
9	Congress st	Market st. to Elm st	Brick Con. bse.	1,918	7,551	2 26	19,140 68	20,182 65			Homer & Co	6 inch concrete
10	Eighteenth ave.	Belmont ave to Springfield ave	Oblong Trap	3,539	9,424	1 99	21,136 83	22,664 75			John F. Shanley	
11	Eighth ave	Spring st to Summer ave Summer ave. to Orange st	Oblong Gran Oblong Trap	1,427 2,736	3,793 9,177	2 14 1 99	8,749 14 19,843 53	30,512 57			Thos. A. O'Connor	Sand
12	Emmet st	Sherman ave. to Frelinghuysen ave	Asphalt	307	1,207	2 67	3,285 09	3,633 13			Barber Asph. Pav. Co.	5 inch concrete
13	Garside st	Bloomfield ave. to Third ave	Asphalt	926	3,780	2 65	10,252 20	10,914 66	9,646 41	1,268 25	Barber Asph. Pav. Co	5 inch concrete
14	Jelliff ave.	Waverly pl. to Eighteenth ave	Oblong Trap	674	2,253	1 88	4,524 64	4,954 45			John F. Shanley	Sand
15	Johnson ave	Clinton ave. to Bigelow st	Brick Con. bse.	1,839	8,676	2 22	20,702 92	21,794 50			Homer & Co.	6 inch concrete
16	Lang st	Walnut st. to Hamburg place	Oblong Gran	535	2,141	2 05	4,751 51	5,318 66	3,950 00	1,368 66	David Harper	Sand
17	Lafayette st	N J. R. R. ave. to Hamburg pl	Asphalt	4,281	17,824	2 68	49,541 02	51,347 85			New Jersey Asph. Co.	6 inch concrete
18	Littleton ave	Warren st. to Fifteenth ave	Asphalt	4,052	17,819	2 68	49,439 37	51,764 95			New Jersey Asph. Co.	5 inch concrete
19	Madison ave	Clinton ave. to Belmont ave	Asph. Cob. bse.	108	500	2 25	269 00	paid by city	$865 p'd by	lot owners	Barber Asph. Pav. Co.	Cobble stone paving
20	McWhorter st	Ferry st to Elm st	Oblong Gran	1,642	6,521	2 05	5,823 36	15,495 71			David Harper	Sand
21	Mulberry st	Fair st. to N. J. R. R. ave	Ob.Grn Con.bse	3,080	7,754	2 92	25,251 32	26,896 55			Terence McManus	6 inch concrete
22	N. Seventh st	Orange st. to Fourth ave	Asphalt	3,048	12,914	2 68	35,858 76	37,570 35			Barber Asph. Pav. Co.	5 inch concrete
23	Oliver st.	Mulberry st. to N. J. R. R. ave	Asphalt	321	1,054	2 67	2 921 63	3,246 90			Barber Asph. Pav. Co.	5 inch concrete
24	Orange st	High st to city line	Ob Grn Con.bse.	7,155	18,414	2 98	60,742 13	64,487 37			David Harper	
25	Orchard st	Walnut st. to Chestnut st	Asphalt	1,189	3,182	2 87	9,623 79	10 281 30	9,543 05	738 25	Barber Asph. Pav. Co.	6 in. con., no binder
26	Pennington st	Broad st. to Mulberry st	Asphalt	876	3,135	2 87	9,201 05	9,867 50	8,915 71	951 79	Barber Asph. Pav. Co.	6 in. con., no binder
27	Plane st	James st. to Broad st	Ob.Grn.Con.bse.	1,240	4,039	3 09	13,962 55	52,621 10	41,269 20	11,351 90	New Jersey Asph. Co.	6 inch concrete
28	Prospect st	Ferry st to Elm st	Brick Con. bse.	1,365	5,247	2 27	13,434 71				Homer & Co	6 inch concrete
29	Rutgers st	S. Orange ave. to Bank st	Oblong Trap.	1,202	3,145	1 88	6,370 01	7,022 34	6,282 88	739 46	John F. Shanley	Sand
30	Scott st	Orchard st. to Mulberry st	Asphalt	406	875	2 65	2,415 40	2,734 39			Barber Asph. Pav. Co	5 inch concrete
31	Somerset st	Avon ave. to Montgomery st	Asphalt	2,411	8,826	2 69	24,501 64	25,613 24			Barber Asph. Pav. Co.	6 inch concrete
32	S. Tenth st	Central ave. to Warren st	Brick Con. bse.	1,532	5,940	2 12	14,139 10	14,985 66			Homer & Co	6 inch concrete
33	Summer ave	Bloomfield ave. to Chester ave	Asphalt	4,860	21,762	2 67	61,133 42	63,009 38	55,514 07	7,495 31	New Jersey Asph Co.	6 inch concrete
34	St. Francis st	Ferry st. to Kossuth st	Oblong Grn.	1,648	6,647	2 07	14,416 46	15,214 90	14,075 59	1,139 31	Thos. A. O'Connor	Sand
35	Sherman ave.	Parkhurst st. to Poinier st.	Asphalt	2,330	10,680	2 69	29,301 16	30 376 67	21,870 96	8,505 71	Barber Asph Pav. Co.	6 inch concrete
36	Thirteenth ave.	Littleton ave. to S. 10th st	Asphalt	1,275	5,870	2 68	16,199 78	16,914 11	12,135 22	4,778 89	New Jersey Asph. Co.	5 inch concrete
37	Walnut st	Van Buren st. to Lang st	Oblong Grn.	1,217	4,840	2 05	10,464 62	11,201 40			David Harper	Sand
38	Washington st	Market st. to Central ave	Ob.Grn.Con bse	2,160	6,315	2 84	19,958 71	21,594 25			John F. Shanley	6 inch concrete
39	Wright st.	Broad st. to Clinton ave	Asphalt.	1,872	7,538	2 69	20 754 27	21,560 30	17,921 76	3,638 54	Barber Asph. Pav. Co.	6 inch concrete
			TOTALS	80 440	301,430		$801,881 74					

GRADING AND CURBING—1895.

TABLE B.

Name of Street	From	To	Length in Feet	Cubic Yds.	Cost per Yard	Feet of Curb	Cost per Foot	Gut'er Pavi'g s. yds	Cost per s. yd.	Final Estimate.	Total Cost	Ass'm'nt on Property	Ass'm't on City	Contractor	Remarks.
S. Fourteenth st.	S. Orange ave....	Sixteenth ave....	1,886	Fill. 2,120	$0 26	3,626	$0 38	......	......	$ 2,495 03	$ 2,767 90	$ 2,767 90	....	Thomas O'Connor..	
Morris ave	For a distance of 100 ft. S. from the S. line of 14th ave., on W. side of said st., 75 ft. on E. side		120	Ex. 1,155	43	182	36	......	......	565 42	....	....	... .	John F. Murray. ...	
S. Eighteenth st.	Springfield ave....	Seventeenth ave	1,977	Ex. 19,000	18½	*3,670*	36	......	......	*5,549 60*	....	....	....	James Seme	Not Completed
Fourteenth ave..	S. Seventh st......	S. Nineteenth st.	3,102	Ex. 7,500	25	*5,000*	35	3,000	$ 0 25	*5,725 00*	....	....	....	Andrew Harper ...	" "
S. Seventh st....	S. Orange ave.....	Fourteenth ave.	350	Ex. 512	30	346	37	......	......	343 97	539 77	... .	....	Wm. J Hughes......	
Hamburg pl ..	Dresden st...	.100 ft. E. of Ave. L.	1,458	Fill 2,240	43	*2,800*	35½	......	.....	*2,296 70*	....	....	....	Murray & Hunkele..	" "
Summer ave....	Verona ave.......	City Line.......	725	Ex. 1,800	35	*1,200*	37	......	......	*1,274 00*	....	....	... .	Thomas O'Connor..	" " Gutter paving inc. in price for excav.

FLAGGING—1895.

Name of Street	From	To	Length in Feet	Square Feet	Cost per sq. foot	Final Estimate	Total Cost	Ass'm't on Property	Ass'm't on City	Contractor	Remarks
S. Fourteenth st.	S. Orange ave.....	Sixteenth ave.....	1,886	14,648	$ 0 12¼	$ 1,800 23	$ 2,058 62	$ 2,028 23	$ 30 39	Andrew Harper	
Fourteenth ave......	S. Seventh st......	S. Twentieth st....	3,350	*23,300*	11½	*2,679 50*	....	....	....	James Seme...............	Not Commenced
S. Seventh st	S. Orange ave.....	Fourteenth ave....	350	1,387	12½	173 37	298 60	....	.. ..	Thos. A. O'Connor.......	

REMARK : The quantities italicized are those bid upon. The amounts of cost italicized are those as per quantities advertised for.

PUBLIC SEWERS—1895.

Name	Location	Brick		Pipe		To'l L'gth	Depth Tr'nch ft.	Cost per foot	M-holes	Cost per Manhole	Basins	Cost per Basin	Amount of Final Estimate	Total Cost as per Auditor	Ass'm't on Property	Contractor	Character of Material Excavated
		Size Inch's	Len'h	Size Inch's	Len'h												
Astor st.	Sherman ave. to Clinton ave.			12	780	482	10½	$0 56	3	$30 00	1	$85 00	$ 427 95	$ 674 45	$ 674 45	Wm. S. Booth	Sand and Boulders
				10	202			45									
Bloomfield ave.	Mt. Prospect ave. to Clifton ave.			18	368		11	85								Michael Condon	Rock and Hardpan
Clifton ave.	400 feet s. to Bloomfield ave.			12	380	748	9½	55	5	30 00	3	90 00	1,131 80				
Bruce st.	Warren st. to Bank st.			12		887	9½	55	5	28 00	1	75 00	717 85	979 22	979 22	Condon & Boyd	Hardpan
Clifton ave.	300 ft. s. of 6th ave. to 6th ave.			12		306	10	65	2	28 00	1	90 00	367 90	526 95		Frank Boyd	Hardpan
Fifth ave		96	44½			16		9 00									Filling, Rock, Hardpan
Lake st.		30x45	2,558				13½	3 00									
Bloomfield ave.		24x36	991			3,593½	12½	2 50									
and branches.				18	2,481		11	1 10								Satchwell & Bellingham	
				15	850		9	75									
				12	2,277		9½	60									
				10	260		9	48									
				8	441	6,309	9	40	52	25 00	29	90 00	21,490 47	23,567 75			
Fifth ave.		24x36	272			272	12½	2 50									Rock, Filling and Red Soil
Fifth st.				15	212		9½	75									
				12	1,694		10	62									
Sixth st.				8	338	2,244	9	44	15	27 00	7	75 00	3,460 60	4,116 04	4,116 04	Antonio Rizzolo	
Garside st.	Fifth ave. to Bloomfield ave.			12		671	11½	63	4	26 00	2	75 00	691 83	994 96	994 96	Antonio Rizzolo	Filling and Clay
				15	575		10½	70									
Hoyt st	Central ave. to Warren st.			12	188	1,109	10	56	7	27 00	5	85 00	1,311 02	1,687 47	1,687 47	Wm. S. Booth	Hardpan
				10	346		9½	44									
High st	Warren st. to Morris canal			15		377	11	1 25	3	32 00			726 25	996 34		Condon & Boyd	Rock & Hardp'n
Jelliff ave.	350 ft. n. Clinton av. to Avon av.			12		1,000	10½	55	6	30 00	1	83 00	815 50			Headley & Christie.	H'rdp'n & B'ld's
Johnson ave.	Alpine st., to 500 ft. northerly			12		514	11	85	3	30 00			526 90	784 31	784 31	James Maguire	Hardpan
Lincoln ave.		44x66	1,214				14	3 67									Sand, Clay, Hardpan and Boulders
		42x63	766				13	3 11									
Elwood ave.		40x60	816				13	2 87									
		38x57	327½				13½	2 70									
and branches.		34x51	690				15	2 63									
		24x36	747				10½	2 19									
		18x27	161			4,721½	12½	1 58	29	24 00							
				22	511		9½	1 33									
	Double Strength			20	308		10	1 32									
				20	601		9½	1 17									
	Double Strength			18	287		10	1 05									
				18	361		9½	89									
	Double Strength			15	799		10	83									
				15	1,464		10	71									
				12	3,965		9½	52									
				10	664	8,960	9	43	55	30 00	35	82 00	26,016 17	28,081 60		Headley & Christie.	

PUBLIC SEWERS—1895.

TABLE C—Continued.

Name	Location	Brick		Pipe		To'l L'gth	Depth Tr'nch. ft.	Cost per foot	M-holes	Cost per Manhole	Basins	Cost per Basin	Amount of Final Estimate	Total Cost as per Auditor	Ass'm't on Property	Contractor	Character of Material Excavated
		Size Inch's	Len'h	Size Inch's	Len'h												
Lang street.....	Elm road to Walnut st..........	.....	......	12	......	921	7½	$ 47	5	$22 50	1	$72 50	$ 632 87	$ 870 63	$ 870 63	Murray & Hunkele..	Filling and Sand
Livingston st....	Avon ave. to Waverly place.. ..	.....	......	15	826		9½	75									Hardpan
Livingston st....	13th ave. to 17th ave...........	.....	......	12	910	1,736	10	55	10	28 00	3	75 00	1,652 50	1,990 84	1,990 84	....	Hardpan
Lincoln Park....				15	102		9½	35									
Penna. ave	....	....	......	15	62		...	75									Sand
				12	275		9½	57									
Brunswick st....				10	211	650	9½	48	6	27 00	1	75 00	581 23	846 30	... .	Condon & Boyd	
Myrtle ave.....	Orange st. to Sussex ave	.....	......	10	......	808	9½	40	4	25 00	...	......	423 00	....	....	P. Harrison & Sons.	Yellow Soil
Magnolia st.....	Fairview ave. to Bergen st.......	.....	......	10	......	430	9	45	2	30 00	.	......	253 50	....	....	Wm. J. Hughes....	Filling and Clay
Nassau st.......	Sheffield st. to Nesbitt st	.....	......	12	......	816	11	55	5	25 00	...	......	584 30	867 60	867 60	James A. Flynn.....	Hardpan
N. Seventh st...	4th ave. to 310 ft. northerly	.. ...	......	8	......	314	16	90	2	36 00	...		377 10	611 39	611 39	Wm. Hanna & Co. .	Hardpan
Orange st.......	Hudson st to Duryee st	....	......	15	......	614	11	75	4	24 60	2	75 00	723 00	1,089 21	1,089 21	Arnold & Golizzio..	Hardpan
				12	356		8	52									
Poinier st......	Broad st. to Elizabeth ave......	.....	......	10	398	1,350	9	45	10	27 00	...	......	860 70	1,165 92	1,165 92	Wm. J. Hughes.....	Sand
				8	596		7	38									
S. Twelfth st....	14th ave. to 16th ave............	.....	......	30	......	1,030	11	3 27	7	13 00	...	......	3,523 70	....	....	Headley & Christie..	Fill'g, Bog & Cl.
				12	1,087		11	69									
S. Eleventh st...	S. Orange ave. to 17th ave.......	.....	......	15	1,363	2,450	13	92	15	33 00	7	90 00	3,691 45	3,275 76	3,275 76	Headley & Christie.	Fill'g & H'd'p'n
				18	724		11	1 00									
S. Fourteenth st	16th ave. to 300 ft. n. 14th ave....	.....	......	15	614	1,626	11	85	9	30 00	3	85 00	1,951 70	....	... ...	Murray & Condon..	Fill'g & H'd'p'n
				12	288		9	60									
S. Ninth st......	Central ave. to 12th ave.	....	.....	12	......	1,901	10	59	12	25 00	2	78 00	1,596 59	1,924 71	1,924 71	David E. Olds......	Hardpan
				18	184			1 00									
S. Eleventh st...	50 ft n. 11th av. to S. Orange av.	.....	......	15	1,510	2,585	11	71	12	26 50	7	70 00	2,750 22	....	... .	David E. Olds......	Filling and Clay
				12	882			59									
S. Ninth st......	12th ave. to 401 ft. s. of 12th ave .	.....	......	15	......	440	10½	70	3	24 00	...	......	380 00	624 16	624 16	Arnold & Golizzio...	Hardpan
S. Sixth st......	Warren st. to 12th ave	.....	......	15	1,193			70									
				12	417	1,610	11	58	9	27 00	4	75 00	1,653 46	2,021 25	....	Antonio Rizzolo....	Fill'ng & H'dp'n
S. Thirteenth st.	225 ft. s. 9th ave. to Central ave..	... .	......	12	......	494	9	56	3	27 50	...	......	376 22	613 83	613 83	Murray & Hunkele .	Hardpan
S. Thirteenth st.	Springfield ave to 18th ave......	....	......	15	......	550	14½	1 15	4	32 00	...	......	760 50	1,015 49	1,015 49	Condon & Boyd...	Hardpan
Warren st	Orange st to 11th st............	.....	......	10	......	735	9½	50	5	28 00	1	85 00	607 00	927 25	927 25	Arnold & Golizzio ..	Hardpan & Clay
Wallace place...	Bank st. to Cabinet st	....	......	12	350	....	10	90	...	......	...	......	....	....	....	....	
Wallace st......	Wallace place to Bank st.... ...	.....	.....	10	449	799	9½	50	8	29 00	1	90 00	909 50	1,214 55	... .	James A. Flynn.....	Hardp'n, Clay & Boulders
Washington ave.				24	1,174	....	10	1 60									
				20	767	....	10	1 21									
Elwood ave.....	....	.....	......	15	876	....	9	76									Red Soil, Gravel and Sand
				12	1,441	....	9	58									
Carteret st.				10	1,692	....	9	45									
				8	313	6,213	9	38	33	27 00	7	88 00	6,688 35	7,453 96	7,453 96	P. Harrison & Sons	
			8,587		51,679	60,266			357		124		$88,661 13				

PRIVATE SEWERS—1895.

TABLE D.

Name	Location	Size of Pipe ins.	Length in Feet	Basi's	Man-holes	Total Cost	Contractor	Persons built for	Remarks
Somerset st	Bet. Avon ave. and Rose st		365		3	$ 298 50	John Hunkele	Howard W. Hayes	
St. Francis st	From George st., southerly	8	425			212 50	Howarth Bros	George B. Jenkinson	Sand
Fifth st	Bet. Dickerson st. and Central ave	12	450		3	374 00	James Conway	John H. Case	
Central ave	From S. Fourteenth st., westerly	15	121	1			B M. & J. F. Shanley	Consolidated Traction Co	
Hudson st	Bet. Dickerson st. and Sussex ave	12	336		2	494 50	James Conway	Albert Meisol	Rock
Sixth ave	" Thirteenth st. and City Line	8	87						
Hermon st	" Johnson st. and Vesey st	12	174		1	135 88	Griffiths Bros	Patrick Reilly	All filled
Thirteenth ave	" Rutgers st. and Wallace st	8	115		1	169 00	John Hunkele	Hermon Elbrecht	
Clifton ave	" Seventh ave. and Sixth ave	12	70						Extension
Lafayette st	" Polk st. and Van Buren st	12	50			51 00	Peter Keller	John C. Rahm	Extension
Lafayette st	" Polk st. and Van Buren st	12	60		1	100 20	C. F. Geissele	William P. Wells	Extension
South 6th st	" Dickerson st. and Warren st	15	394		3	384 30	William Hughes	Louis V. Pfeifer	
Clifton ave	" Seventh ave. and Sixth ave	12	143						Extension
Sussex ave	" Second st and Third st		164			235 79	William Brown	Jacob L. Stumpf	
Miller st	" Penna. ave. and Frelinghuysen ave	10	317		3	300 00	A. J. Simpson	Alexander Campfield	
Gillette place	" Broad st. and Penna. ave	12	147	1	1		Headley & Christie		
Gillette place	" Penna. ave. and Sherman ave	}	271		1		T. W. Kelley		
Sherman ave	" Gillette place and Parkhurst st								
Chester ave	" Washington ave. and Oraton st	12	361		2	280 80	P. Harrison	W. C. Garrison	Gravel
Ogden st	From Clay st., southerly	15	292		3	326 25	M. Condon	M. S. Mork & Co.	
North 9th st	" Fourth ave., southerly	8	370		2	357 90	M. Condon	Paul H. Brangs	
Lawrence st	" Market st., northerly	15	149		1		Howarth Bros		
Waverly place	Bet. High st. and Quitman st	10	44				Jacob Rau		Extension
Littleton ave	" Bank st. and Thirteenth ave	12	207		1	250 00	James Flynn	Christian Hilfer	Extension
Goris st	" Blum st. and S. Tenth st	10	279		1				
North 7th st	From Fourth ave., southerly	8	323		1	205 20	M. Condon	E. A. Van Wagenen	
Patterson st	" Niagara st., easterly	8	240			140 00	James Mulligan	A. Rehberger and F. Gahr	Sand
Morris ave	" Kinney st., southerly	10	319		2	381 10		Charles Strebinger	
Peabody place	" Chester ave., northerly	12	380		2		Headley & Christie	Peabody Land Co	Gravel
Fourth ave	Bet. Roseville ave. and N. 11th st	8	413		1				
Lincoln Park	" Penna. ave. and Clinton ave	8	105				Condon & Boyd	William B. Guild	Sand
Hunter street	" Penna. ave. and Frelinghuysen ave	8	342		1		Condon & Boyd	Good Bros	
			7,513	2	36				

Where amount of cost is missing, no statement was filed in this department.

Clerk's Report.

Board of Street and Water Commissioners
of the City of Newark,
Department of Water.

To the Honorable, the Mayor and Common Council of the City of Newark, N. J.

Gentlemen:

In accordance with Section 20 of the law creating the Board of Street and Water Commissioners of the city of Newark, which requires me to make a report of the receipts and expenditures at the close of each fiscal year, I herewith submit the following as my report for the year ended December 31, 1895.

Respectfully submitted,

A. M. LINNETT,

Clerk of the Board.

332995

Financial Statements.

DEPARTMENT OF WATER.

CASH ACCOUNT.

Cash Balance, December 31, 1894	$165,016 33
Receipts from all sources	622,432 87
Total	$787,449 20
Less Disbursements on all accounts	622,243 12
Balance, December 31, 1895	$165,206 08

TRIAL BALANCE.

December 31, 1895.

Cash	$ 165,206 08	
Coupon Trust Fund	35 00	
Coupon Bond Account		$2,710,000 00
Registered “		782,000 00
Plumbers' Drafts		178 50
Loss and Gain	113 53	
Coupons Payable		35 00
Belleville Pump House	56,309 39	
“ Boiler House Extension	2,387 76	
“ Engineer and Firemen's Dwellings	22,696 52	
“ New Chimney	10,057 24	
“ Keeper's Home	3,192 60	
“ Pumping Engine No. 1	55,909 73	
“ “ “ “ 2	55,591 95	
“ “ “ “ 3	78,918 29	
“ “ “ “ 4	42,607 54	
“ New Boilers	15,638 31	
“ Receiving Reservoir	133,645 05	
Amount forward	$ 642,308 99	$3,492,213 50

TRIAL BALANCE—CONTINUED.

Amount brought forward	$ 642,308	99	$3,492,213	50
River Wall, Dock and Basins	266,112	99		
Driven Wells	10,568	76		
Caisson Wells	2,453	80		
High Service Engine House	27,847	44		
" " Extension	5,417	70		
New Boilers, Clifton Ave	6,349	82		
High Service Pumping Engine No. 1	21,407	40		
" " " 2	21,630	22		
" " " 3	19,874	81		
" Reserve Pumps	12,609	26		
" Reservoir, S. Orange Ave	94,585	27		
Low Service Reservoir	304,039	20		
Branch Brook " Seventh Ave	54,294	15		
Street Mains, General	1,440,484	23		
" of 1895	23,880	85		
" Relaid and Lowered	39,997	94		
Pump Main No. 1	92,552	57		
" " 2	47,353	54		
Supply Main No. 1	152,998	38		
" " 2	81,643	96		
" " 2, Section "A"	49,998	90		
Twelfth Ward Feeder	7,151	67		
Distributing Main No. 2	63,612	00		
Extra High Service	33,704	66		
Regular High Service Feeder No. 2	13,096	01		
Forest Hill Feeder	6,868	29		
Belleville Fuel Account	7,137	45		
" Engine Stores	228	59		
" Engineer and Firemen's Wages	3,604	92		
High Service Fuel Account	514	08		
" Engine Stores	285	58		
" Engineer and Firemen's Wages	2,266	45		
Belleville and High Service				
Machinery, Stock and Fixtures	2,519	12		
Stable Stock and Fixtures	4,978	49		
Office Furniture, Fixtures and Fittings	3,798	75		
Water Meter Account	238	69		
Hydrant Account			3,435	77
Insurance	310	90		
Bond and Mortgage	4,600	00		
Street Mains Stock and Material			1,867	09
General Supplies			927	23
Service Account			3,022	18
Plumbing Supplies			69	24
Real Estate No. 1	26,964	15		
" " 2	3,696	15		
" " 3	2,545	48		
" " 4	10	50		
Amount forward	$3,606,542	11	$3,501,535	01

TRIAL BALANCE—CONTINUED.

Amount brought forward		$3,606,542 11	$3,501,535 01
Real Estate No.	5	750 00	
" "	6	13,162 00	
" "	7	500 00	
" "	10	2,360 00	
" "	11	10,416 36	
" "	12	12,134 90	
" "	13	6.692 65	
" "	15	55 42	
" "	16	6,000 00	
" "	17	12,500 00	
" "	18	1 00	
" "	19	500 00	
" "	20	100 00	
" "	21	500 00	
" "	22	3,290 04	
" "	23	500 00	
" "	24	4,880 00	
" "	25	4,300 00	
" "	26	2,660 00	
" "	27	625 00	
" "	28	3.550 00	
" "	29	4,200 00	
" "	30	9,196 00	
" "	31	3,800 85	
" "	32	9,380 00	
" "	33	6.738 00	
" "	34	9,000 00	
" "	36	1,201 00	
" "	37	1 00	
" "	38	1 400 00	
" "	39	4,250 00	
" "	44	15,375 00	
" "	46	3,713 02	
" "	53	21,477 07	
" "	54	9.393 89	
" "	55	4,696 95	
" "	56	11,883 64	
" "	57	1,693 92	
" "	58	5,101 69	
" "	59	532 50	
" "	60	11,113 86	
" "	61	450 00	
" "	62	339 00	
" "	63	389 55	
Maintenance General		9.151 97	
" Reservoirs, Grounds and General		5,312 63	
" Pure Water		44 91	
" New Water Supply		2,136 08	
Amount forward		$3,843,992,01	$3,501,535 01

TRIAL BALANCE—CONTINUED.

Amount brought forward	$3,843,992 01	$3,501,535 01
Repairs, Street Mains	3,935 69	
" Hydrants	410 69	
" Drinking Fountains		102 32
" Water Meters	126 31	
" Real Estate No. 1	1,311 98	
" " Tenements	10 75	
" Engineer and Firemen's Dwellings	407 48	
" Keeper's House, Belleville	44 95	
" Belleville Pump House	316 50	
" High Service "	224 50	
" Low Service Reservoir	3,029 46	
" Extra High Service Feeder	293 06	
" Belleville Pumps, Boilers and General	139 37	
" River Wall, Dock and Basins	22 00	
" Supply Main No. 1	11 00	
" " " 2	662 06	
" Tools	1,363 82	
" Services	629 79	
" Setting Meters	2 82	
Expense Account	12,506 60	
Engineering	7,034 35	
Inspection	10,707 00	
Salaries	16,649 60	
Appropriation, Extension of Street Mains		20,000 00
" Lowering and Relaying		20,000 00
Sinking Fund	129,000 00	
Coupon Bond Interest	276,200 00	
Registered "	44,155 00	
General Interest Account		527 06
Water Rent Income		556,170 38
Rents, Real Estate		400 95
Penalties and Fines		3,654 82
Surplus and Deficiency		390,840 74
Collection Account, Services	651 30	
" Advance Water Rents	52,666 17	
" Fractional "	1,084 46	
" Miscellaneous	36 673 53	
Sundry Personal Accounts	48,969 03	
	$4,493,231 28	$4,493.231 28

STATEMENT A.

CONSTRUCTION.

Belleville Pump House	$ 56.309	39
“ Boiler House Extension	2,387	76
“ Engineer and Firemen's Dwellings	22,696	52
“ New Chimney	10.057	24
“ Keeper's House	3,192	60
“ Pumping Engine No. 1	55,909	73
“ “ “ 2	55,591	95
“ “ “ 3	78,918	29
“ “ “ 4	42,607	54
“ New Boilers	15,638	31
“ Receiving Reservoir	133,645	05
“ River Wall Dock and Basins	266,112	99
“ Driven Wells	10,568	76
“ Caisson Wells	2,453	80
High Service Engine House	27,847	44
“ “ Extension	5,417	70
“ New Boilers	6,349	82
“ Pumping Engine No. 1	21,407	40
“ “ “ 2	21,630	22
“ “ “ 3	19,874	81
“ Reserve Pumps	12,609	26
“ Reservoir, S. Orange Ave	94,585	27
Low Service Reservoir	304,039	20
Branch Brook “ Seventh Ave	54,294	15
Street Mains, General	1,464,365	08
Pump Main No. 1	92,552	57
“ “ 2	47,353	54
Supply Main No. 1	152,998	38
“ “ 2	81,643	96
“ “ 2, Section “A”	49,998	90
Twelfth Ward Feeder	7,151	67
Distributing Main No. 2	63,612	00
Extra High Service	33,704	66
Regular High Service Feeder No. 2	13,096	01
Forest Hill Feeder	6,868	29
	$3,337,490	26

STATEMENT B.

GENERAL STOCK AND PROPERTY.

Street Main Stock and Material	$ 6,871	14
General Supplies	221	49
Belleville and High Service Machinery, Stock	2,761	15
Office Furniture and Fittings	4,587	75
Stable Stock and Fixtures	3,912	14
Hydrant Account	765	55
Service "	554	71
Belleville Fuel and Stores	4,987	22
High Service Fuel and Stores	58	80
Water Meters and Fittings	1,346	88
Insurance	310	90
Bond and Mortgage	4,600	00
Real Estate, General	254,020	59
	$284,998	32

STATEMENT C.

ACCOUNTS DUE THE BOARD.

Advance Water Rent Account	$ 52,666	17
Fractional " "	1,084	46
Building " "	101	42
Sprinklers " "	306	00
Special " "	557	23
Measured " "	21,807	83
Arrears " "	13,901	05
Service, Collection Account	651	30
Sundry Personal "	48,969	03
	$140,044	49

STATEMENT D.

MAINTENANCE AND REPAIRS OF WORKS.

Maintenance General	$ 9,151	97
" **Reservoirs, Grounds and General**	5,312	63
" **Pure Water**	44	91
" **New Water Supply**	2,136	08
Repairs of Street Mains	3,935	69
" **Real Estate No. 1**	1,311	98
" " **Tenements**	10	75
" **Engineer and Firemens Dwellings**	407	48
" Keepers House, Belleville	44	95
" Belleville Pump House	316	50
" High Service Pump House	224	50
" Low Service Reservoir	3,029	46
" Extra High Service Feeder	293	06
" Belleville Pumps, Boilers and General	139	37
" River Wall Dock and Basins	22	00
" Supply Main No. 1	11	00
" " No. 2	662	06
" Tools	1,363	82
" Setting Meters	2	82
Street Mains Relaid and Lowered	39,997	94
	$68,418	97

ASSETS AND LIABILITIES.

	DR.	CR.
Construction.	$3,337,490 26	
General Stock and Property	284,998 32	
Anticipated Assets	140,044 49	
Coupon Trust Fund	35 00	
Cash	165,206 08	
Coupon Bond Account		$2,710,000 00
Registered "		782,000 00
Coupons Payable		35 00
Plumber's Drafts		178 50
Loss and Gain		435,560 65
	$3,927,774 15	$3,927,774 15

Loss and Gain	1895	$435,560 65
"	1894	390,840 74
		$ 44,719 91

STATEMENT.

FUND FOR THE CONSTRUCTION OF A STORAGE RESERVOIR.

CASH.

		DR.	CR.
Balance Forward, Dec. 31st, 1894		$ 23,365 68	
From Interest on Investments	$9,175 00		
" Rent Real Estate	50 00		
" Sale Hay, Ivy Hill	200 00		
Total Receipts for year		9,425 00	
Total Expenditures for year			$ 27 95
Balance to Credit of Account with City Treasurer, Dec. 31st, 1895			32,762 73
		$ 32,790 68	32,790 68

TRIAL BALANCE.

		DR.	CR.
Bond Account		$148,000 00	
Real Estate Account, Ivy Hill Property	$81,828 40		
Real Estate Account, Belleville Property	13,965 35	95,793 75	
Cash Account		32,762 73	
Storage Reservoir Account			$276,556 48
		$276,556 48	$276,556 48

REAL ESTATE AND SECURITIES

Registered Newark City Water Bond No. 9	$ 50,000 00
" " " " 10	6,000 00
" " " " 28	50,000 00
" " " " 86	15,000 00
" " " " 87	12,000 00
" " " " 88	15,000 00
Real Estate, Ivy Hill, S. Orange, N. J.	81,828 40
" Belleville, N. J.	13,965 35
	$243,793 75

RECEIPTS AND EXPENDITURES FROM JANUARY 1st, 1895 to JANUARY 1st, 1896.

RECEIPTS.

Balance forward, January 1st, 1895		$165,016 33
Advance Water Rent Collection	$388,732 24	
Fractional " "	2,535 61	
Hose " "	8,660 50	
Miscellaneous " "	149,112 76	
Service Collection Account	20,234 52	
Sale of Old Hay Market Shed	15 00	
" Tenements, Sheffield Street	40 00	
Rents, Real Estate	400 95	
Sale of Coal	55 50	
Sale of Ashes	1 00	
Sales on Service Account	388 75	
Penalties and Fines	3,654 82	
Interest, Bond and Mortgage	509 06	
Payment of Principal "	70 00	
Sundry Personal Accounts	8,022 16	
From City of Newark Appropriation on Account of Extension of Street Mains, 1895	20,000 00	
From City of Newark Appropriation on Account of Lowering and Relaying Mains	20,000 00	
		$622,432 87
		$787,449 20

EXPENDITURES.

Labor and Cartage, Street Mains of 1895	$ 8,702 44
Streeet Mains, Stock and Material	28,892 29
Engineering	7,034 35
Service Account	19,349 69
Inspection	10,707 00
Expense Account	12,608 60
Belleville Engine Stores	174 23
" Engineer and Firemens Wages	3,604 92
High Service Fuel Account	261 08
" Engine Stores	121 02
" Engineer and Firemens Wages	2,406 45
Water Meter Account	4,654 96
General Supplies	65 76
Plumbing Supplies	23 23
Salaries	16,649 60
Registered Bond Interest	44,155 00
Coupon "	276,200 00
Insurance	1 65
Hydrant Account	4,543 76
Amount Forward	$440,156 03

EXPENDITURES—CONTINUED.

Amount brought forward	$440,156 03	
Setting Meters	2 82	
Loss and Gain	97 17	
Maintenance Reservoirs and Grounds	5,165 75	
" General	7,626 86	
" New Water Supply	2,139 68	
" Pure Water	41 31	
Relaying and Lowering Street Mains	25,608 42	
Repairs, Tools	1,363 82	
" Water Meters	1,040 89	
" Hydrants	790 34	
" Street Mains	2,351 02	
" Real Estate, No. 1	1,311 98	
" Belleville Pumps, Boilers and General	139 37	
" Engineer and Firemen's Dwellings	407 48	
" Drinking Fountains	185 68	
" High Service Pump House	224 50	
" Belleville Pump House	316 50	
" Keeper's House, "Belleville"	44 95	
" River Wall, Dock and Basins	22 00	
" Real Estate, Tenements and General	10 75	
" Supply Main No. 1	11 00	
" Supply Main No. 2	448 81	
" Low Service Reservoir	2,998 81	
" Services	619 75	
" Extra High Service Feeder	117 43	
Sinking Fund Account	$129,000 00	
		$622,243 12
Balance carried forward Dec. 31st, 1895		165,206 08
		$787,449 20

INVENTORIES.

DECEMBER 31st, 1895.

No. 1.	Street Mains, Stock and Material	$ 6,871	14
No. 2.	General Supplies	221	49
No. 3.	Belleville and High Service	2,761	15
No. 4.	Office Furniture and Fittings	4,587	75
No. 5.	Stable Stock and Fixtures	3,912	14
No. 6.	Hydrant Stock	765	55
No. 7.	Service Stock	554	71
No. 8.	Belleville Fuel and Stores	4,987	22
No. 9.	High Service Fuel and Stores	58	80
No. 10.	Water Meters and Fittings	1,346	88
	Total	$26,066	83

STREETS AND HIGHWAYS—1895.

RECEIPTS.

Balance, 1894	$ 252 32	
Appropriation	93,565 00	
Special appropriation	4,000 00	
Street openings	4,080 00	
Board of Horses, Sewer Department	3,000 00	
" " Lighting "	300 00	
Consolidated Traction Co., Inspection Etc	1,799 74	
Newark & S. O. Railway Co., "	257 33	
Sale of old stone	491 98	
" horses	50 00	
" manure	12 75	
Advertising	91 20	
" Newark Telephone Co	412 40	
" Western Union Telegraph Co.,	490 00	
Fines	159 47	
Insurance	133 87	
Water Department, repair work	50 03	
Sewer " " "	27 76	
Sundries	57 00	
Pound Fees	69 18	
Unclaimed Warrants	169 22	
		$109,469 25

DISBURSEMENTS.

Advertising	$ 2,305 47	
Inspectors	1,618 29	
Rent of Yard, from Jan. 1, 1890, to Jan. 1, 1895	750 00	
Monument Boxes	173 25	
Insurance on horses, carts, &c	162 95	
Stationery and Printing	461 96	
Harness and repairing	556 72	
Blacksmithing	536 66	
Horseshoeing	328 88	
Repairing wagons and carts	968 19	
Tools	912 01	
Hardware	219 14	
Street Signs	219 10	
Street Sweepers and repairs	1,457 75	
Cracked Stone	337 28	
Repairing Streets	849 99	
Horses	490 00	
New wagons	185 60	
Testing brick	133 15	
Horse hire	136 50	
Refund of street openings	61 00	
Amount forward		$ 12,863 89

DISBURSEMENTS—CONTINUED.

Amount brought forward		$ 12,863 89	
Brick and cement		33 70	
Paint, oil, glass, &c.		43 52	
Lumber		190 38	
Stove grate		1 50	
Plumbing work		30 70	
Coal, office Halsey St.		57 85	
J. C. Mundy, Incidentals		8 40	
Saw dust		1 00	
Car fares		10 90	
Certificate of fire		1 00	
Corrigated iron		113 30	
Electric light lamps		1 32	
Recording surveys		11 25	
Weighing stone wagons		5 00	
Provinder		2,575 47	
Veterinary surgeon		206 55	
Rent of stable		765 00	
Drugs		28 95	
Coal, stable		23 75	
Gas, city stable		65 87	
Plumbing		7 80	
Whitewashing		20 00	
Disinfectant		54 38	
Harness soap and axle grease		16 10	
Salaries, Ass't Sup't and Supervision		3,208 30	
Pay Roll, January	$ 4,197 66		
February	4,717 92		
March	9,237 36		
April	18,309 44		
May	7,341 44		
June	7,600 39		
July	7,093 43		
August	5,722 88		
September	5,976 70		
October	6,647 97		
November	3,946 31		
December	8,098 28		
		88,889 78	
Unexpended balance		233 59	
			$109,469 25

MAINTENANCE OF ARMORY—1895.

RECEIPTS.

Balance, 1894	$ 106 47	
Appropriation	2,091 00	
Special appropriation	400 00	
		$ 2,597 47

DISBURSEMENTS.

Gas		$ 860 14	
Plumbing		43 31	
Coal		155 75	
Repairing flag pole		6 00	
Hardware		5 80	
Insurance		239 00	
Repairing roof		402 35	
Glass		1 46	
Iron pipe		7 28	
Grate castings		19 60	
Keys		1 25	
Pay Roll, carpenter	$ 10 68		
Salaries	712 00		
		722 68	
Unexpended balance		132 85	
			$ 2,597 47

CROSS WALKS—1895.

RECEIPTS.

Balance, 1894	$ 75 26	
Appropriation	5,305 00	
Special appropriation	200 00	
Consolidated Traction Co	40 95	
Unclaimed warrants	3 60	
		$ 5,624 81

DISBURSEMENTS.

Hardware and tools		$ 53 20	
F. D. Aber, car fare		57 20	
Relaying of cross walks		255 28	
Repairing tools		13 00	
Lumber		4 10	
Sand		3 50	
Pay Roll, January	$102 28		
February	72 00		
March	165 50		
April	904 72		
May	648 02		
June	567 22		
July	303 24		
August	325 90		
September	346 57		
October	823 08		
November	578 59		
December	351 24		
		5,188 36	
Unexpended balance		50 17	
			$ 5,624 81

BRIDGES—1895.

RECEIPTS.

Balance, 1894	$ 1,678 50	
Appropriation	2,606 00	
		$ 4,284 50

DISBURSEMENTS.

Repairing Jersey Street bridge		$ 248 12	
“ Broad “ “		980 23	
“ Halsey “ “		105 60	
“ River “ “		193 18	
“ Plane “ “		6 80	
“ Madison “ “		13 00	
“ Orange “ “		62 60	
“ Mulberry “ “		87 87	
“ Bloomfield Avenue		1,478 00	
Hardware		27 09	
Lumber		46 33	
Car fare		6 00	
Pay Roll, March	$65 75		
April	73 00		
May	6 00		
June	28 48		
July	22 37		
August	25 36		
September	28 48		
October	32 41		
November	29 64		
December	3 01		
		314 50	
Unexpended balance		715 18	
			$ 4,284 50

PUBLIC GROUNDS—1895.

RECEIPTS.

Balance, 1894	$ 1,728 47	
Appropriation, 1895	4,164 00	
Special appropriation	200 00	
Sale of old wood, &c	30 00	
“ “ “ iron fence	43 30	
		$ 6,165 77

DISBURSEMENTS.

Flagging Lincoln Park		$ 666 60	
Repairing fountains		110 69	
Bench castings		324 00	
Plants, trees and shrubs		752 85	
Hardware		35 85	
Repairing Trinity Church roof		45 89	
Paints, oils, &c		13 69	
Lumber		96 50	
Advertising		68 00	
Soil		9 80	
Signs		27 44	
Coal		2 50	
Grass seed		54 84	
Wire netting		89 12	
Blacksmithing		4 00	
Labor and Manure		130 82	
Cracked stone		81 62	
Lawn mowers and repairing		20 70	
Plowing Phillips Park		10 00	
Pay Roll, January	$503 66		
February	119 07		
March	95 82		
April	358 32		
May	453 66		
June	524 72		
July	380 83		
August	346 37		
September	304 77		
October	162 13		
November	71 06		
December	267 00		
		3,587 41	
Unexpended balance		33 45	
			$ 6,165 77

PUBLIC BATHS—1895.

RECEIPTS.

Balance, 1894	$ 3,974 02	
Appropriation	2,815 00	
Special appropriation	2,000 00	
Sale old bath houses	45 00	
Refund advertisement, error in estimate	15 00	
Towel rents	164 79	
Unclaimed warrants	1 50	
		$ 9,015 31

DISBURSEMENTS.

Advertising		$ 42 60	
Mason work		2,633 17	
Carpenter work		1,950 80	
Steam heating		360 00	
P. G. Botticher, architect		243 57	
Sewer connection		75 00	
Flagging		11 86	
Electric light wiring and bulbs		38 47	
Extra labor		26 50	
Insurance		45 00	
Water connection		49 42	
Bathing suits, towels, &c		136 45	
Boiler implements		9 00	
Water cooler and stand		5 75	
Hose		32 62	
Wire cloth		18 93	
Lumber		7 01	
Keys and numbers		12 90	
Brooms		1 00	
Coal		56 70	
Paint		60	
Ice		3 80	
Electric lights		5 98	
Washing towels		28 14	
Pay Roll, August	$198 65		
September	196 00		
October	153 00		
		547 65	
Unexpended balance		2,672 39	
			$ 9,015 31

PUBLIC BATHS—Summer Avenue.

Report for 1895.

Attendance, males	36,785
" females	5,408
Total,	42,193

Receipts, $164.79

SIDEWALKS—1895.

RECEIPTS.

Balance, 1894	$1,267 64	
Appropriation	2,091 00	
		$3,358 64

DISBURSEMENTS.

Printing and Stationery		$ 38 15	
Stamps		6 00	
Incidentals, Car fare		46 89	
Flagging Broad Street, Old Burying Ground		116 73	
" on Lincoln Park		19 20	
Pay Roll, January	$150 00		
February	120 00		
March	120 00		
April	150 00		
May	120 00		
June	140 00		
July	130 00		
August	120 00		
September	120 00		
October	150 00		
November	110 00		
December	160 00		
		1,590 00	
Unexpended Balance		1,541 67	
			$3,358 64

SEWERS AND DRAINAGE—1895.

RECEIPTS.

Balance, 1894	$ 4,340 20	
Appropriation 1895	46,785 00	
Special Appropriation	1,000 00	
East Orange Township Inspectors	1 892 60	
Sewer Taps	12,120 00	
Cleaning Sewers (Private)	44 25	
J. Aikman, & Co.,	5 00	
Sale of Horse	30 00	
Refund J. S. Mundy	15 50	
Building Manholes	18 00	
		$66,250 55

DISBURSEMENTS.

Pumping Station		
Coal	$ 1,784 31	
Repairing Engine	1,352 28	
Engine repair supplies	81 26	
Labor on Pumps and Engine	59 40	
Ice	11 80	
Sheet Lead, etc	64 71	
Telephone	100 20	
Repairing Roof	121 75	
Smoke Pipe	7 00	
Lumber	85 32	
Hardware	29 78	
Water Rent	50 00	
Mason Work	22 87	
Oil Waste, etc	210 30	
Blacksmithing	114 30	
Advertising	70 50	
Horseshoeing	193 00	
Hardware	136 28	
Tools	53 56	
Harness and Repairing	183 20	
Repairing Carts	381 52	
Manhole Castings	295 35	
Brick and Cement	322 16	
Construction of Sewer Basins	921 56	
Inspectors	997 50	
Repairing 12th Street Sewer	3,523 70	
Horse	150 00	
Carriage	145 00	
Horse Hire	32 00	
Dredging Peddie Street Ditch	5,652 72	
S. & H., Board of Horses	3,000 00	
Ernest Adams, Incidentals	544 44	
Rudolph Hering, Prof. Services	628 92	
Veterinary Surgeon	137 25	
Water Department	14 25	
Bags	15 50	
Hickory Hoops	3 75	
Oil, etc	5 20	
Ladder	3 65	
Insurance	54 15	
Rubber Boots	11 00	
Refund Tap Permits	20 00	
Lithograph Charts	84 00	
Lumber	38 90	
Repairing City Dock Sewer	648 86	
Basin Heads	20 00	
Flag Stone	4 16	
Rubber Hose	90 63	
Coal	4 75	
Amount forward		$22,482 74

DISBURSEMENTS—CONTINUED.

Amount brought forward		$ 22,482 74	
Carting		17 00	
Buston Rods		99 48	
Awning Peddie Street Ditch		3 10	
Barrels		2 00	
Paving Gutters		27 76	
Pay Roll, January	$3,414 60		
February	2,493 35		
March	3,405 30		
April	3,906 21		
May	2,848 56		
June	3,267 25		
July	3,151 60		
August	3,097 54		
September	3,312 91		
October	4,069 65		
November	2,597 73		
December	3,713 81		
		$39,278 51	
Unexpended Balance		4,339 96	
			$66,250 55

PUBLIC LIGHTING—1895.

RECEIPTS.

Balance, 1894	$ 9,562 69	
Tax Ordinance	155,956 00	
Special Appropriation, November	27,000 00	
" " December	2,000 00	
Ads	127 00	
		$194,645 69

DISBURSEMENTS.

Electric Lights	$135,050 52	
Gas	53,064 77	
Salaries	3,937 50	
Plumbing	732 04	
Glass, Oil, etc.,	308 92	
Care of Horse	300 00	
Chemicals, Alcohol, etc ,	149 46	
Janitor Service	61 80	
Inspectors Office, Expense	120 51	
Expert Service	100 00	
Stationery	45 86	
Hardware	38 39	
Harness Repairs	4 50	
Unexpended Balance	731 42	
		$194,645 69

WHARVES—1895.

RECEIPTS.

Balance, 1894	$2,525 02	
Appropriation	1,047 00	
Electric Light and Power Company Rent	100 00	
Wm. Corbett, Supt	166 75	
		$3,838 77

DISBURSEMENTS.

Pay Roll	$ 15 04	
Salary Wm. Corbett	80 00	
Unexpended Balance	$3,743 73	
		$3,838 77

Street Lighting.

To the Honorable the Board of Street and Water Commissioners of the City of Newark.

GENTLEMEN :

Herewith is presented my report for the year ended December 31, 1895.

ELECTRIC LIGHTING.

Electric Lamps in Use December 31st, 1894	1,265	
Less one (1) Lamp charged by error of E. L. & P. Co.	1	
		1,264

LIGHTED DURING YEAR.

January	19
February	73
March	69
April	37
May	13
June	16
July	59
August	6
September	0
October	0
November	1
December	5
	298

Electric Lamps in use December 31, 1895 1,562

Cost of each lamp per year $98.55 ; per night 27 cents.

NUMBER OF HOURS LAMPS WERE REPORTED OUT.

January	7,377
February	4,909
March	4,987
April	2,700
May	2,725
June	2,345
July	3,985
August	5,076
September	2,506
October	7,866
November	3,862
December	5,474
	53,812

Gas Lamps.

Number of Gas Lamps in use December 31st, 1894	2,334
New Lamps Lighted	33
Old Lamps Relighted	17
Total	2,384
Number of Gas Lamps discontinued by substitution of Electric Light	369
Number of Gas Lamps in use December 31, 1895	2,015

Cost of each Lamp per year $19.00.

	Number of Gas Lamps Attended to	Lights of Glass put in Lamps	New Pillar Cocks	Lamps Painted	Posts Taken up & Removed	New Posts Placed	Posts Broken
January	3,099	537	26	17	0	0	2
February	5,241	217	18	4	2	0	1
March	621	560	16	28	5	0	1
April	304	614	16	46	58	0	1
May	345	664	21	31	14	0	5
June	448	624	23	23	4	0	2
July	416	571	30	36	6	0	2
August	562	748	15	86	16	0	4
September	654	558	11	42	17	0	1
October	1,006	712	17	35	9	2	2
November	876	745	11	29	4	4	1
December	1,097	761	14	32	6	0	1
	11,639	7,311	218	409	142	6	23

Respectfully submitted,

JOHN H. HUEGEL,

Superintendent of Public Lighting.

REC'D FEB 15 1915